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PROCEEDINGS

OF THE

First National Conference on Race Betterment

January 8, 9, 10, 11, 12, 1914

BATTLE CREEK, MICHIGAN

PUBLISHED BY THE RACE BETTERMENT FOUNDATION

EDITED BY THE SECRETARY

"To be a good animal is the first requisite to success in life, and to be a Nation of good animals is the first condition of national prosperity."

—*Herbert Spencer.*

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THE PURPOSE OF THE CONFERENCE

To assemble evidence as to the extent to which degenerative tendencies are actively at work in America, and to promote agencies for Race Betterment.

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Calhoun County Medical Society.
Battle Creek Dental Society.
Battle Creek Chamber of Commerce.
Battle Creek Board of Education.
Normal School of Physical Education
Battle Creek Sanitarium and Hospital Training School.
Nurses' Alumni Association of the Battle Creek Sanitarium and Hospital
Training School.
Battle Creek Sanitarium School of Home Economics.
Young Men's Christian Association.
Young Women's Christian Association.
Charitable Union.
Woman's Club.
Woman's League
The Ladies' Aid Societies of Nine Churches of Battle Creek.
Woman's Society of the Congregational Church.
Dorcas Society.
Women's Christian Temperance Union.
Sanitarium Women's Christian Temperance Union.



Banquet in honor of Dr. Victor C. Vaughan, president American Medical Association, during Conference on Race Betterment.

ADDRESS OF WELCOME TO THE CONFERENCE

J. H. KELLOGG, LL.D., M.D., Superintendent of the Battle Creek Sanitarium, Battle Creek, Michigan.

I feel it an honor, as well as a great privilege, to extend to you in behalf of the Board of Trustees of this Institution a most cordial welcome to this Conference, the first of its kind to be held. And I wish to tell you that if you esteem it a privilege to gather here for the discussion of great questions which concern the welfare of the race, you are most of all indebted to our greatly esteemed friend, the eminent Doctor Hillis, of Plymouth Church, for it was he who last summer suggested to me and to other members of the Central Committee the idea of this Conference. I said to him in reply, "But, is it possible to bring to this small town the busy men who are giving serious thought to altruistic questions of this sort?"

"Certainly it is," said he, "and I'll help do it."

Professor Irving Fisher happened to be here at the time, and when consulted, he said, "By all means, let us have the Conference," and he also promised to help. Both of these men, who are individually doing such splendid things for the uplift of their fellows, have helped so efficiently that the program which is in your hands has been arranged and the Race Betterment Conference is launched.

It is not expected that this Conference will be great in numbers. Those who attend come by special invitation, and as indicated by the names of speakers shown on the program, are representative thinkers and leaders in various lines of work which have for their aim the advancement of human welfare.

From the start it has been most gratifying to note the unanimous interest shown in the great purposes of this Conference. Practically every person who has been asked to take part in the program has readily consented to do so unless prevented by some previous engagement. The questions which will be discussed here are the greatest problems which face the world today. They are not merely questions of sect or section, finance or politics: they are race questions, biologic questions, whose roots run back to the very childhood of the race and whose branches cast their shadow over every phase of human life.

The real purpose of the Conference is not to formulate conclusions nor to propagate doctrines, but simply to raise in a more definite way certain questions of world-wide significance which have in recent years been more or less casually discussed, and to set in operation methods

of inquiry which it is hoped may lead to a disclosure of facts of tremendous importance. If the race is degenerating, it is highly important that the world should know it and that such agencies should be set in operation as will save the race of man from the common fate of all other living forms as told and foretold by the geologic records of the earth's crust.

The Conference is to be congratulated in having for its Central Committee and Executive Officers a body of men eminently qualified to give expert guidance to the studies and discussions which may be opened up, and to protect us and the public from the evils of sensationalism on the one hand, and the dangers of preconceived opinions and conventional blindness on the other.

We are all to be congratulated that we have with us as the President of this first Conference on Race Betterment, our young and greatly beloved and honored friend, Dr. Stephen Smith, whose whole life has been devoted to the very objects of this Conference, and who at the age of ninety-two years—thanks to Eugenics and Euthenics—is still one of the most active men engaged in the service of the great State of New York.

After seventy years of public service, fifty years as State Commissioner of Charities, Doctor Smith is still active as ever. As President of the Tree Planting Association he is transforming the desert wastes of New York City into pleasant groves and parks. After waiting two average life-times for Doctor Smith to show some symptoms of old age, the people of New York have finally become convinced that he is endowed with eternal youth, and possesses the vitality of his beloved elms and oaks, and so have recently commissioned him for another six years' term as Vice-President of the State Board of Charities, a Board which carries a heavier load of responsibility for human life and happiness than any other like body of men on earth. We hope he will unfold to us and to the world the secret of his perennial youth and vitality. His example and his presence here are a proof and promise of the possibility of race betterment.

ADDRESS OF WELCOME

HON. JOHN W. BAILEY, LL.B., Mayor of Battle Creek, Michigan.

After this exceedingly appropriate address and welcome by Doctor Kellogg, it is somewhat embarrassing and quite unnecessary for me to make any remarks of the nature in which the Doctor has indicated, but I assure you that even though it may seem unnecessary, it is a great pleasure for me—in behalf of the thirty thousand citizens of Battle Creek—to welcome to our city these honored guests, ladies and gentlemen, who have left their work and their homes and their fields of usefulness to come here to take part in this first great Conference on Race Betterment. We are very glad indeed to welcome this Conference to the best town in Michigan, and, when I say that, I may welcome you to the best town in the best state in the best country on earth. Nature has done a great deal for our city, located as it is in the fertile valley of two streams, surrounded by beautiful lakes and having a beautiful climate. Everything that vegetation and foliage can do for it has been done. The citizens have done much to improve the natural advantages which they found here. We have many great factories of which we are all very proud. We are very proud of our school system, very proud of our churches, of our societies and of our people. It is our claim here that we have the most cosmopolitan people in the whole world. We are not very poor, not very rich, but we are all able to make a living and enjoy ourselves. We have one thing which above all others we are the most proud of, and that is this great Sanitarium. This institution and its managers have for the last forty or fifty years been laboring day and night, in order that they may do good to their fellow-men; in order that this race, our brothers and sisters, may be improved. And we who live here know well how successfully they have labored. We are exceedingly proud that this institution has been able to bring to Battle Creek the distinction of having the very first Race Betterment Conference.

If I understand it correctly, it is the object of this Conference to work together, exchange ideas in order that there may be some definite understanding as to what is best for the great mass of the people of this world, and to give those ideas to the great masses of people who cannot possibly be here and who cannot possibly know very much about these things, and thus to inaugurate reforms. Many people in the past have been at work exerting their great energies to the betterment of the trees and flowers, and to

the betterment of animals, but there has not been that great concerted effort for the betterment of the human race that we find in other fields. It is to these honored gentlemen who come here for this Conference that we must look for a start in this most practical and most important of all subjects. I sincerely hope that the work of this Conference may be such as to lay the foundation for future Conferences, so that this work may go onward and upward for all generations, in order that the boy and girl of the distant future may look back upon a father and upon a mother and upon a pedigree reaching back into many generations, every line of which represents good, strong men and good, strong women, well-educated men and well-educated women—men and women who have used their bodies and their minds for the best interests of the race in order that their descendants may properly represent the image of their Creator.

We wish for this Conference every possible success. I know we shall all be proud of its results. It is not necessary for me to say a word in introducing the President of this Conference. Doctor Kellogg has said briefly and better than I could possibly say it all that is necessary. I will simply say this, that from the appearance of Doctor Smith, he represents the idea that he is bringing to us. He comes of a long-lived family, a family whose ancestry has given to him the inheritance which has enabled him to do the great work which he has done, and to come here at the age of ninety-two, full of life, full of strength, full of hope and full of a desire to lift up and glorify the human race.

I take great pleasure in introducing to this Conference, Dr. Stephen Smith, its President.

PRESIDENT'S ADDRESS

THE BASIC PRINCIPLES OF RACE BETTERMENT

STEPHEN SMITH, M.D., LL.D., President of the Conference; Vice-President
New York State Board of Charities, New York City.

Mr. Mayor, Members of the Conference, Ladies and Gentlemen:—

An ancient symbol of the genius of Medicine represented a female figure sitting with downcast eyes and a finger on her closed lips, signifying that the proper position of the physician is one of silence and meditation. That symbol illustrates the mental attitude which I should prefer to assume in this Conference. But, as with many of the more responsible duties in my experience, it was not for me to determine the position I was to occupy in the Conference, and I have humbly accepted the decision of the Central Committee, only too thankful that I was deemed worthy of an invitation to become a member.

I enter upon the duties assigned me with a full appreciation of the honor which the Presidency of this Conference confers and inspired by the desire to render it an open forum for the initiation, discussion and determination of the kind, quality and employment of the agencies for the promotion of race betterment.

OBJECTS OF CONFERENCE

It is fitting, on establishing a new organization, to define its objects and explain its methods. As officially announced, the objects of the Conference are two-fold, as follows:

1. To assemble evidence as to the extent to which degenerative tendencies are actively at work in America, and,
2. To promote agencies for race betterment.

Giving to the word "degenerative" its ordinary meaning—a loss or impairment of the qualities peculiar to the race—our inquiry and research includes every matter or thing which in any wise, nearly or remotely, affects unfavorably the normal physical development and functional activity of any member of the race.

The second object of the Conference—To promote agencies for race betterment—opens a world-wide field for observation, research and practice, for these agencies are innumerable. The term "Race" includes the "Human Family," "Human Beings as a Class," "Mankind." "Betterment" means improvement in its broadest and largest sense.

Reducing these objects as stated to a practical standard, the outlook upon the human race from the view-point of this Conference recognizes two features in its developments:

1. The tendency to degenerate;
2. The capacity to regenerate.

In our estimation of the tendency of the race to degenerate we must carefully distinguish between an inherent tendency or predisposition to degeneracy under any and all conditions, and a susceptibility to degeneracy under certain favoring conditions. All experience proves, and science confirms experience, that degeneracy of the race is not due to any structural peculiarities of the individual other than the normal susceptibility to impressions, which may be greater in one person than in another, owing to heredity. On this account, environment, or the conditions under which an individual lives, is a most important determining factor in our estimation of race degeneracy and race regeneracy.

On the very threshold of his existence man is confronted with conditions which powerfully tend to degeneracy. All animal and vegetable life appears alien to this planet and has to struggle for existence amid hostile forces which beset it on every hand. What vast quantities of germinal matter the bountiful hand of nature supplies to every form of life to perpetuate "its kind" and yet scarcely one germ in a million lives. In summer the fields and forests are strewn with waste germs.

Man himself is only one of the thirty-thousand possible sons and daughters with which his parents were endowed. His birth is a successful incident; his first breath is an accident; his nourishment is by the grace of another. If he survive the perils of infancy and reach maturity, innumerable evils—physical and mental—sickness, imbecility, insanity, crime, death—assail him at every stage of progress as if they were his inheritance.

Endowed for a vigorous, healthy life of a hundred years, man suffers from every form of disease and lives but a moiety of his predestined longevity. Of the children born, what large percentage never see their first anniversary birthday! What other large percentage dies under five years! Few comparatively reach the age of ten years; at twenty the generation has dwindled to an insignificant minority and at forty-five it disappears altogether. But three in a thousand reach the normal period of human life—one hundred years.

But while the evidences of a tendency of the race to degenerate are apparent to common observation in every period of human history, there is an obverse of this sad picture of the most hopeful and inspiring character. The same impressionable peculiarity of his nervous

centres which tends to make him yield to degenerative influences may be relied upon by skilled treatment to promote and effect his regeneration. Estimating man's inherent mental capacity by his achievements in the past, we can place no limit upon the possibilities of his betterment. Consider how he has subdued the hostile forces of the earth and made them subservient to his comfort and his well-being! Though the most unprotected of animals, he excels all others in his means of defense; he lays the entire world under contribution for his food supply and reduces his foods to the most digestible and assimilable forms; if he loses a limb, or a tooth, or an eye, another immediately supplies its place, quite as serviceable and often more ornamental; the lightning as his messenger annihilates time and space, and while it transports him also supplies him with heat and light. Thus on all sides he is capable of warding off danger, decay and death and demonstrates his ability to exercise dominion "over all the Earth."

These facts suggest the question of the ages, "What is the ultimate purpose of human life on this Earth?" And it is very desirable that we have a working hypothesis that will be most useful in selecting and promoting agencies for the betterment of the race. There can be no more helpful and hopeful answer to that question than the following last utterance of the great scientist, Alfred Russell Wallace:

"This earth with its infinitude of life and beauty and mystery, and the universe in the midst of which we are placed, with its overwhelming immensities of suns and nebulae, of light and motion, are as they are, firstly, for the development of life culminating in man; secondly, as a vast schoolhouse for the education of the human race in preparation for the enduring spiritual life to which it is destined."

What higher conception can we have of the world in which we live than that it is a "vast schoolhouse for the education of the human race," and what more pointed lesson can be taught as to the conduct of our own lives and our duties to the race than that this life is "in preparation for the enduring spiritual life to which it is destined?"

PAST AND PRESENT METHODS OF RACE BETTERMENT

To appreciate fully the great service which this Conference will render to humanity, if it establish the principles of race betterment on the immutable basis of science, we need to consider for a moment the past and present unscientific and inefficient methods of betterment of the degenerates of the race. Looking backward we learn that man has usually been regarded as an unknown entity, a mysterious combination of the animal, the satanic and the divine, the two former attributes being usually the most conspicuous. Efforts to benefit him were limited to improving his personal appearance, supplying evident wants, and punishment of criminal acts. The result was that neither

the individual nor the race was made permanently better by the remedies employed. The diagnosis was based on false premises and the remedial measures were useless or harmful.

No one personally familiar with the management of the charitable, reformatory, eleemosynary and other institutions for the degenerate classes can doubt that we signally fail to accomplish the objects of their creation—the betterment of their inmates. We mass these unfortunates together under one name, and make one prescription for the lot that has not the merit of several ingredients. Too often the insane of every form and grade, curable and incurable, are crowded into asylums, where their individuality is merged in the seething mass; the criminals, young and old, thieves, highwaymen, adulterers, murderers, crowd the prisons, without the slightest effort or even pretense on the part of officials to individualize them and employ suitable measures to render them capable of self-care, possibly of self-support, and certainly to insure humane treatment.

The experience of a generation in official visitation and supervision of the charitable, reformatory and eleemosynary institutions of the State of New York has deeply impressed me with the conviction that our efforts to benefit the vast population in public and private care—idiots, feeble-minded, insane, criminals, deaf, blind, epileptic, vagrants—is in a primitive stage of development. The institutions for their care and treatment are becoming less and less *curative* and more and more *custodial*. The result is the gathering and support at public expense of an immense population of more or less able-bodied men and women who on account of their various ailments, physical and mental, are allowed to pass their lives to old age in complete idleness. No sadder sight awaits the visitor to these institutions than groups of such people, well-fed and clothed, sitting in idleness in and around the buildings on a bright summer day and in view of farm lands largely cultivated by paid laborers.

One is reminded of Carlyle's picturesque Tourist's description of the Workhouse of St. Ives on a bright autumn day. He says, "I saw sitting on wooden benches, in front of their Bastille and within their ring wall and its railings, some half hundred or more of these men, tall, robust figures, mostly young or of middle age, of honest countenance, many of them thoughtful and even intelligent-looking men. They sat there near by one another; but in a kind of torpor, especially in silence, which was very striking. In silence; for alas, what word was to be said? An Earth all lying around crying, Come and till me; come and reap me;—yet we here sit enchanted! In the eyes and brows of these men hung the gloomiest expression, not of anger, but of grief and shame and manifold inarticulate distress and

weariness; they returned my glance and with a glance that seemed to say, 'Do not look at us. We sit enchanted here, we know not why. The Sun shines and the Earth ealls; and by the governing powers and impotence of England, we are forbidden to obey. It is impossible, they tell us.' There was something that reminded me of Dante's hell in the look of all this; and I rode swiftly away."

Many of these institutions could place on the lintel of their entrance door the famous motto, "Who enters here leaves hope behind." An eminent physician, disappointed at the few discharged from these charities, compared with the large number admitted, characterized them as "Great Hospitals of Lethargy." It has recently been remarked by an eminent statesman and acute observer, Sir Horace Plunkett, that, "rightly or wrongly, it is generally felt that the service which science renders in the cultivation and preservation of our health lags far behind its marvelous achievements in the region of the industries and arts." This statement is eminently true when applied to our efforts to improve the mental and moral condition of the degenerate class. Ignorance of man's physical constitution has unfavorably influenced every effort for his betterment and still is the greatest obstacle to success in our treatment of the defective and dependent classes. Though we live in the noon-day effulgence of the sciences of biology and physiology, their light illumines only the upper atmosphere, and does not penetrate the dense gloom which envelops the degenerate of our race.

UNSCIENTIFIC AND SCIENTIFIC METHODS

There is no better illustration than that furnished by medical art of the disastrous influence of ignorance of man's intimate physical nature upon efforts to relieve his disabilities, and the power of scientific knowledge of these essential facts to apply with precision the exact remedy required to give relief.

In the days of ignorance "the mysteries of physic" was a term in common use by the profession. Diagnosis was merely guesswork and therapeutics was grossly empirical. Diseases of organs were treated in the mass as a single affection. "Lung disease," "heart disease," "liver disease" were common terms, each now known to cover a multitude of ailments, but unknown to the practitioner of that time because he was ignorant of the minute structure of the organs and of the consequent great variety of affections to which each organ was liable. In the treatment of the diseases of an organ, the physician made but one prescription, and for any new symptom which might appear he added another drug, until the single prescription sometimes contained ten or a dozen different remedies. This was the famous "shot-gun"

prescription, which was "sure to kill something." Possibly this incident explains the familiar story of the old physician who said that when he began practice he had ten remedies for one disease, but in later life he had one remedy for ten diseases.

The great revolution in medical practice came when Virchow, the German medical scientist, revealed the fact that the ultimate elements of man's physical organism are a commonwealth of infinitesimal bodies known as cells; that every organ is a wonderful mechanism adapted to its special function by the multiplication and arrangement of its cells numbering thousands of millions in a single organ; that each cell-unit has its own special function, its own diseases, its own symptoms and requires its own special remedies.

It is quite impossible for one who was not a contemporary with this discovery to appreciate its remarkable influence on medicine as an art. The scales fell from the eyes of the practitioner, and where previously he had known imperfectly but two or three diseases of an organ, as of the heart and lungs, he now recognized scores, each with well-defined symptoms, and each requiring a special remedy. The entire field of medical practice was revolutionized; diagnosis became exact; treatment precise; the saving of life enormous. Evidently, the basic principles of medical practice are: (1) Exact knowledge of the structure and functions of the organ affected; (2) the nature of the diseases to which it is liable; (3) the symptoms peculiar to each disease. With this knowledge the medical practitioner no longer masses diseases and gives a multiple dose, but carefully discriminates between the symptoms, determines the single disease and its progress, and then administers the appropriate remedy and secures the desired results.

BIOLOGY AND PHYSIOLOGY THE FOUNDATION OF RACE BETTERMENT

But there is a hopeful future dawning for all classes of delinquents, degenerates, and deficient, however handicapped by heredity, environment, accident or disease. The science of biology and of physiology, which reveals to medical art the minute structure and function of the ultimate elements of the vital organs and thus makes it exact in practice to the great saving of human life, is penetrating further and further into the hitherto mysterious mass of apparently homogeneous matter, the brain, and astonishing the world with its wonderful revelations. Here it has found the very springs of human existence—the centers of consciousness, thought, action—the home of the soul, the Ego, the man.

In these discoveries we find the basic principles of race betterment. The adage is still true, that it is "the mind that makes the

man," and all our efforts to improve the individual and through him the race must center in the normal development and physiological action of the ultimate elements of the brain, the organ of the mind. Every effort we make to improve man's physical condition should be subordinate to its effect on the brain. A recent writer says, "Whatever elevates the physiological above the psychological, the body above the mind, is an enemy of the race and no method for its regeneration." Henceforth, all our efforts to better his condition should be based on an intimate knowledge of the brain, admittedly the organ through which that mysterious entity, the mind, finds expression.

In order to obtain a more thorough understanding of the subject matter of this paper, especially by lay members, it will be necessary to explain in a familiar way some features of the structure and functions of the elements of the brain.

THE CELL—THE NEURONE

Reduced to its simplest form and expression, the ultimate element or unit of the brain is a cell which with its nerve is now called a "neurone." This infinitesimal body is recognized by scientists as the source of all mental phenomena—thought, word, act. In efforts to express their estimation of brain-cells in the relation which they bear to the mentality of the individual, the most eminent physiologists of our time have used the following emphatic terms: One states that "the cell is a unified organ; a self-contained living being;" a second regards it as "the sole active principle in every vital function;" a third asserts that it is "the medium of sensation, will and thought, the highest of the psychic functions;" a fourth says, "As are his neurones (brain cells) so is the man."

Recently, Ernest Haeckel, the German scientist and philosopher, has made the following contribution to the cell theory, "We have now ascertained in the clearest, most indisputable manner that all which we term the 'soul' is in a scientific sense nothing more than the total effect or function of the 'Soul Cells' of the numerous neurones in the brain'."

Though the cell is so "extraordinarily complicated that its essential constitution eludes our observation," its general structure and more important features are well known. The following facts in regard to it have been recorded by physiologists: A cell is "an individuated mass of *protoplasm*, generally of microscopic size, with or without a nucleus and a wall." Protoplasm is an albuminoid substance capable of manifesting vital phenomena, as motion, sensation, assimilation, reproduction; the least particle of this substance, a single cell, may be observed to go through the whole cycle of vital functions; it builds up every

vegetable and animal fabric; it is the physical basis of life of all plants and animals.

The protoplasm of the brain cells is so extremely sensitive that by proper instruments a change can be detected in its substance when a cloud passes over the sun; also a thermometer will detect a rise of its temperature during any great mental effort; and, again, delicate scales will weigh the amount of blood which rushes to the excited brain cells for their nutrition when a person in a recumbent position has sudden mental excitement.

The cells, estimated to be upwards of two thousand millions in the human brain, are implanted before birth in a rudimentary form and undergo an evolution from the cell of the lowest animal life to the complex cell of the human brain. Though at birth the cell has been perfected, so far as regards its structural adaptation to its special future function, yet it will remain in an inert state and undergo no further change or development until excited to activity. Each cell has its own special function to perform and hence has its own special stimulant; the cells of the auditory center are stimulated by sound, those of the ophthalmic center by light, those of the olfactory center by odors.

Physiologists believe that in the human brain there are large numbers of nerve-cells that remain undeveloped because never excited to functional activity, and also that at any period of life, cells hitherto inert may receive their proper stimulus and become active. They assert that if to the born-blind there is no world of light, and to the born-deaf there is no world of sound, may it not be a fact that worlds exist around us other than those revealed by the five special senses; worlds which we do not recognize because the special nerve centers for that purpose have not as yet been stimulated to activity? St. Paul hints at that opinion when he declares that spiritual truths cannot be discerned except the spiritual (cells) sense has been awakened and Haeckel now asserts that the soul is the output of the functional activity of "Soul Cells." Along the same line of conjecture may we not suggest that many strange mental phenomena—dreams, telepathy—hypnotism—find their proper explanation.

Cells, like other tissues, are constantly undergoing change in the act of nutrition and owing to their extreme susceptibility to impressions, their functions are easily disturbed by the food we eat, the fluids we drink, the condition of our digestion, in addition to the infinite number of impressions which they daily receive from causes internal and external to the body. For this reason our mental moods are constantly changing; we are not the same this year that we were last year, this month that we were last month, this evening that we were this morn-

ing. It follows that any change in the constitution or structure of the cell must be attended by a derangement of its function that would find expression in the mental acts of the individual. If a group of cells should from any cause cease to act, the mental attributes which they manifest, when acting normally, must cease. Equally, if the same cells are overstimulated, their functional activity is correspondingly increased. Or, again, if the properties of the cells are changed, as by alcoholic intoxication, or by any other toxic agent which finds access to the brain and for which any cells have an affinity, the normal function as expression would be changed to the extent that the affected bodies contribute to the mentality and personality of the individual and in the particular feature involved therein.

The wise Diotama said to Socrates most truly (Symposium of Plato): "In the same individual there is succession and not absolute unity; a man is called the same, but yet in the short interval which elapses between youth and age . . . he is undergoing a perpetual process of loss and reparation. . . . And this is true not only of the body but also of the soul, whose habits, tempers, opinions, desires, pleasures, pains, fears never remain the same in any one of us, but are always coming and going."

Physiology teaches that these cells endow all forms of animal existence with that degree of intelligence necessary to their personal welfare in the sphere in which they live—man, cosmopolitan in his habits, standing at the head with two thousand millions as his requirement; and the animaleule, fixed in its place, with few to meet its simple wants. It follows that these cells, so far as they exist and are brought into functional activity, constitute the personality of the individual, the "ego," whether of man or animal.

And wherever these cells are found, whether in the brain of man or beast, fish or fowl, insect or creeping thing, they only await the skill, the cunning, the patience of the expert educator or animal trainer to show the world an idiot working at his trade, a horse responsive to every word or gesture of his keeper, a dog going on an errand by command of his master whom he does not see and always selecting the right article, a learned pig solving arithmetical problems, seals performing difficult stunts, ants learned in military tactics, fleas expert in social functions.

The perfect brain must be one in which all of its cells have their full and normal functional development. But the degree of development depends upon so many conditions personal to the individual that it is doubtful if a perfect human brain ever did or ever will exist on this planet. In every community, and often in the family, we recognize vast differences in the mental development of individuals, though

they seem to be living under precisely the same conditions. But underlying, or interwoven in, these external and recognized similar conditions are undiscovered incidents that account for the differences so apparent.

Traced to its true source it will be found that the want of opportunity to apply the greater number and variety of stimulants to the brain through the special senses—seeing, hearing, feeling, tasting, smelling—accounts for much of what we call degeneracy. The farm laborer toiling alone has none of the intelligence and vivacity in conversation of the village tailor, cobbler or blacksmith, though equally endowed mentally. The farmer has few brain stimulants, while the latter are abundantly supplied through constant contact with customers. A schoolboy rated as deficient saw an older scholar sketch a horse on the schoolroom door; he was so profoundly impressed by the picture (that is, his art nerve-centers were so stimulated) that he devoted himself constantly to sketching and became the most distinguished portrait painter of his time. Sir Isaac Newton states that he—"stood very low in his class" but the sight of a falling apple aroused dormant brain cells which revealed to the world the law of gravitation and made him forever famous. History is replete with incidents of the sudden awakening of hitherto unstimulated brain cells of persons accounted defectives. Can we, therefore, wisely and justly determine the mental capacity of any living being, man or animal, until we have given the opportunity for development. But however handicapped by heredity or disease, or environment, science teaches with unerring certainty that, unless their organic properties are destroyed by accident or disease, cells promptly respond to such curative measures as are adapted to relieve them of their disabilities.

I may seem to have dwelt on these scientific facts with too much minuteness and, perhaps, repetition, but as they are the basic principles upon which all future progress in the improvement of the so-called defective classes must rest, and as they are obscure to a layman, I have been impressed with the importance of discussing them more fully at this first session of the Conference on Race Betterment.

The most interesting and practical feature of these cells evidently is the absolute control that we may exercise over their functions. They enlarge and become active when we stimulate them, and atrophy and become passive when we withhold stimulants. As each cell, or group of cells, has its own special function to perform, we can select the group that will accomplish the object we have in view, and stimulate it to the degree necessary to reach the desired result. Or we may reduce an active group of cells to their rudimentary state of quiescence by withholding its proper stimulant.

METHODS OF IMPROVING THE RACE

Reduced to its simplest expression the question that confronts us is, How can we secure to each individual of the race a normal development of brain cells? Applying these basic principles to the betterment of the race, two methods of procedure naturally occur to the scientific student. First is prevention, or the adoption of such measures as will prevent the birth of degenerates; and, second, an effort to improve the condition of existing degenerates.

Two methods of preventing the propagation of degenerates are practiced; *viz.*, (1) Sterilization, and (2) segregation of the sexes. These methods are efficient means of preventing the increase of those who submit to the test. But however effective sterilization and segregation may be in arresting the increase of degenerates, they are methods which must necessarily have limited application. The great problem before this Conference and all workers in the field of philanthropy is the betterment of the defectives as we find them in every grade of society.

If we adopt the basic principles of race betterment as herein set forth, that problem may be stated as follows: How can we make the brain of the defective most useful to its possessor? Considering the remarkable sensitiveness of the nerve cells of the brain to impressions both within and without the body, it is evident that the measures which may be employed to arouse the cells to activity and restore their normal functional capacity are innumerable, and their effectiveness will depend upon the intelligence, patience and perseverance of the responsible caretaker.

THE EDUCATION OF IDIOTS

The first efforts in this country to teach the idiot strikingly illustrate the preceding statement of the basic principles of race betterment. More than a half century ago Dr. Harvey B. Wilbur reduced the theories of science to practice and demonstrated their truth. I was witness of his experimental work on idiots and feeble-minded, and it is interesting to note that it is founded on the modern teaching of physiology in regard to the structure and function of the brain cells. His explanation of his method was to the effect that the idiot had a dormant nervous system, and the first step in his education must be to arouse the brain to activity; that the best method of making a first impression was through the sense of feeling; that the shock communicated by a metallic substance through the sensitive surface of the hand was the most effective. His argument was logical. In practice he placed the idiot-child on the floor and laid a dumb-bell by his side, fixing the child's hand on the shaft. Standing in front of his pupil,

the doctor deliberately struck the boy's dumb-bell with a dumb-bell in his own hand. The first trial was on a boy whose idiocy was so profound that he scarcely noticed anything. The clash of the metals startled the boy so that he involuntarily removed his hand from the dumb-bell. This was the first trial, as he had just been received. The doctor pronounced him a promising pupil, as his nervous system was sensitive to impressions.

Three other pupils under training were tested, each showing improvement in proportion to the length of time of teaching; the first of these raised his eyes and was excited as the Doctor's dumb-bell descended; the second removed his hand before the dumb-bell was struck, and laughed; the third imitated the Doctor in the use of the dumb-bell.

Doctor Wilbur explained that this method of arousing a dormant brain (unconsciously referring to the cells) had this advantage, that he stimulated at once three of the five special senses—feeling, seeing, hearing. If we could trace the far-reaching connections of the cells of the special centers with other centers higher in the brain and leading up to the great centers of ideation, we should have seen hundreds of thousands of inert and hitherto dormant cells awakened to activity and the performance of their proper function.

REFORM OF CRIMINALS

The treatment of the criminal class on the physiological or humane system strikingly illustrates its value compared with the punitive methods still practiced. It is interesting to notice the conclusion of the last meeting of the International Prison Congress which was to the effect that no criminal is hopelessly bad and incapable of reform.

Socrates replied to an Athenian who inquired as to the best method of correcting the vicious and criminal tendencies of his son, "Remove from him all conditions which incite to vice and substitute the allurements of virtue." In physiological language he said, "Cease to stimulate the vicious brain cells which are now excited and govern his thought and they will waste and cease to influence him; stimulate the virtuous cells and they will enlarge until they control his acts."

"When you pass through the gate to this place, you left your past life behind you; I do not wish to have you ever refer to it; my only concern is as to what your future life will be, and to determine that question you are here." Such was the reply which the superintendent of a prison for convict women made to the threats of homicide of a young woman who was declared by a Boston judge to be the most desperate criminal ever known in the courts of that city. She boasted of having been in every prison in Ireland and in many of this country.

The treatment was physiological; all incitements to vice and crime were removed and every possible stimulant to virtue substituted; the cells of the former wasted while the cells of the latter grew and became dominant. Today the priest of her parish in Ireland writes that she is the most helpful person he has in his work among the vicious classes.

"Try me," said a prisoner to the sheriff who asked him if he would work for wages. These two words reformed the management of a Vermont prison and made it a school for the making of useful citizens. The prisoners go out to work in the city of Montpelier and command by their conduct universal respect. They are seen on the streets on holidays without attendants; they receive wages for their work and thereby support, not only their families, but the prison itself. They leave the prison prepared to lead the lives of good citizens and few fail to meet that test of true reform.

"I am going to make men and not brutes of these fellows," said Governor West, of Oregon, when he began his famous prison reforms. His "first trick" with a convict, it is reported, stirred the state from the lowest to the highest. He requested the warden of the prison to give one of the most desperate prisoners a dime and direct him to call at the executive office. The warden replied that to give Jim Baggs a dime and his liberty meant that Jim would soon be scarce in Oregon. He, however, complied and the prisoner soon appeared at the state house; he was in prison dress but was very proud, informing every officer who he was and that he came on the Governor's invitation. A position was found for Jim Baggs on a farm where he did good service and the Governor made him his first "honor man." This reform in prison discipline resulted in the release of prisoners on parole "in droves," who found situations outside and earned their living and became respectable citizens. It is stated that, when one of his "honor men" broke parole, the Governor went out himself and captured him. Since that time the other convicts have made that prisoner's life miserable. The Governor sent a crew of forty convicts, without prison dress and unattended, to a distant town to work on a road. He says, "Oregon won't need a penitentiary at an early date."

"Arizona State Prison, a School for Developing Manhood," is the startling headline of a daily paper. Governor Hunt's policy in the management of prisons is physiological. He says, "Shall we go on making penitentiaries schools of crime, or make an effort to build up the man's character, restore his self-respect, strengthen his weakness, and cultivate in him a proper appreciation of his relation to others, and to society in general? *You can never do these things by continually reminding him that he is a criminal, by submitting him to small humiliations or to cruelties.*"

The result of the management based on these principles is given by a prisoner: "The Governor thinks we are worth saving and he is willing to let us come back. He has taken away all our useless humiliations that kept before us our condition. The Governor trusts to our honor to obey the prison laws and there is not an English-speaking prisoner, at least, who would do anything to bring discredit on the Governor's policy. You have no idea already of the difference in the men among themselves. We used to have fights every day. Oh! it was hell. Now, although we are restless, and every man longs for liberty, we are at peace."

Other states are adopting the humane policy and converting their prisons into schools of reform and with marvelous results; prisoners of all grades respond to the influences which remove from their thoughts the incentives to vice and crime and yield to the allurements of virtue. The punitive or savage policy in treating convicts is generally dominant and the result is that prisons are schools of vice and a dead weight of taxation.

CURATIVE TREATMENT OF THE INSANE

The curative treatment of the insane received a stunning blow by the publication of some ancient statistics showing that large numbers discharged as cured relapsed. This report by an eminent alienist had a blighting effect upon the faith of medical men in the real curability of the insane, and revived the old but popular belief, "Once insane always insane." The result was that their treatment became more empirical than scientific, the state hospitals custodial rather than curative, and the rate of cures a meager 25 to 30 per cent. An expert alienist, familiar with the management of institutions for the insane, has recently stated that 75 per cent of the insane are curable, and 90 per cent are capable of self-support, if adequate measures are taken for their cure, and for their training. "Adequate measures" embrace an exhaustive study of each case by a competent physician and persistent treatment.

Finally, I can only allude to the vast but practically unexplored field of medical therapeutics, which we have reason to believe abounds with agents for which brain-cells have a selective affinity. As we have stated, each cell has its own special stimulant and its own power of selecting from the blood the kind of nutriment and stimulant adapted to its function. When we know the affinity which any cell or group of cells has for a particular medicine we can medicate that particular cell or group with perfect accuracy. Thus, the oculist wishes to expand the pupil of the eye in order to explore its deeper recesses and with perfect certainty he uses atropine, which temporarily paralyzes the nerves that supply the iris.

Many similar instances of the specific action of medicinal remedies upon special brain cell-centers could be mentioned, but the investigations in that department of research have not advanced sufficiently to establish a code of practice. We can only conjecture that medical therapeutics will give us many agencies whose direct action on nerve centers will change their functions at our will.

THE RELIGIOUS CONSCIOUSNESS

Examples of the awakening of the religious consciousness—the “Soul Cells” of Haeckel—illustrate our subject. Perhaps the incident of St. Paul’s conversion as related by himself is most illuminating. “Suddenly there shone from Heaven a great light . . . I fell unto the ground, and heard a voice.” A great light and a voice—sight and sound—aroused to intense activity the dormant “Soul Cells” (of Haeckel), which from that moment dominated every thought, word, and act of his life.

The power of the Christian consciousness, when awakened to activity, to change the most savage tribes into highly civilized communities is related as an incident in the experience of Darwin, the projector of the theory of “Evolution.” In his first scientific voyage he found a tribe of savages in South America which seemed so hopelessly animal that he was inclined to believe he had found the missing link. Soon after his visit a pious Scotch captain of a trading vessel visited the tribe and was so impressed with their savagery that he felt impelled to attempt their conversion to Christianity. He returned home, secured a company of devoted Christians, stocked his vessel with the necessities of the colony and returned to the tribe. Several years later Darwin visited the tribe on one of his scientific explorations, intending to study the people more thoroughly. He was surprised on reaching the place to find a flourishing community with its schools, churches, and various industries under the government of the natives. On returning home he visited the rooms of the British Foreign Missionary Society in London and related the incident, stating that he desired to become a subscriber to the propagation of a religion which could effect such changes in savages.

It would be interesting and instructive to review the efforts hitherto made to improve the mental capacity of the degenerate, but time will allow the notice of only the most recent and promising methods now under trial.

THE ELECTRIFIED SCHOOLROOM

The first is known as the “Electrified Schoolroom to Brighten Dull Pupils,” of Nikola Tesla. It is well known that eminent experimental

psychologists believe that the high-frequency current intensifies cerebration; that it is a mental stimulant like alcohol, but instead of being harmful to the brain cells as is alcohol, the electricity is harmless and confers lasting benefits.

Mr. Tesla's attention was attracted to this subject by noticing the effect of electricity on one of his assistants who, while making certain high-frequency tests, was very stupid in carrying out instructions concerning laboratory adjustments equipped with a coil generating high voltage currents. After a time Mr. Tesla noticed that his assistant became brighter and did his work better, but supposed the change was due to his becoming more familiar with his duties. On observing the actions of the man more closely, he concluded that his assistant's increased aptness and alertness was due to a much deeper cause than mere experience; that the elements of "mental life"—the brain cells—had been stimulated to greater functional activity. This new, novel and practical method of awakening to activity dormant brain cells, has been subjected to trial on a large scale in Stockholm, Sweden. Two sets of fifty children each, averaging the same age and physical condition, were placed in separate classrooms exactly alike except for the concealed wires in one of the rooms. The regular school work was pursued and the test lasted for six months.

The results recorded were as follows: The children in the magnetized room increased in stature two and a half inches, those in the unmagnetized room increased one and one-fourth inches; the former also showed an increase in weight and physical development greater than the latter. More remarkable was the difference between the mental development of the two classes, viz.: Those exposed to the electric rays averaged 92 per cent in their school work, compared with an average of 72 per cent of the children in the other rooms; fifteen pupils in the electrified room were marked 100, and nine in the other class. It is stated in the report that the electrified children appeared generally more active, and less subject to fatigue than those not electrified and that the teachers experienced a quickening of the faculties and an increase of endurance.

The method of applying the electricity is thus stated: Carefully insulated wires will be inserted in the walls of the experimenting classroom and the tests will be carried on without the knowledge of either the teachers or the pupils; the air of the room will be completely saturated with incalculable millions of infinitesimal electric waves vibrating at a frequency so great as to be unimaginable and capable of measurement only by a most delicate volt meter.

THE CLEARING HOUSE

The second plan proposes to establish a "Clearing House for Mental Defectives" and is being matured in the Department of Public Charities of New York City. It will co-ordinate all organizations which have supervision of children in a common effort to separate the defectives and place them under proper care and treatment.

To this Bureau are to be sent all defective children that come under the supervision of the Department of Charities, the Board of Education, the Department of Health, the Society for the Prevention of Cruelty to Children, the Department of Immigration, children's courts, state institutions, dispensaries, social workers, etc.

The bureau will be under the immediate control and management of a staff of experts in mental and nervous diseases. It will also be equipped with every recognized device or appliance for determining the mental grade of each child admitted, and the particular nature of feeble-mindedness. Each will be subjected to the Binet test, finger prints will be taken, and field workers will make an investigation into the heredity of each case. The examination also will determine whether the applicant is likely to be dangerous to the community by reason of any criminal tendencies.

The Clearing House will name the proper course of action in each case, and send a report on each child to the department or society which may refer the case. It will also co-ordinate all activities into one bureau organized to keep scientific records of the mentally defective individuals in this community.

BUREAU OF SOCIAL SCIENCE

Organized on the same principles there is maturing in the Bedford Reformatory, New York, a state system of expert examination of convicts and an assignment of each to a special institution adapted to correct the physical, mental or moral defects found to exist. The plan is to have a branch of service of the reformatory, but entirely separated from it, where preliminary investigations will be made. To this so-called "Bureau of Social Science" the convict is first admitted and remains there until her exact physical and mental condition is determined. This examination may require much time, but when it is completed the committing magistrate and the managers have learned to place her with precision under such discipline and influences as will most powerfully tend to effect her reform.

In this scheme we recognize the practical development of the Basic Principles of Race Betterment, viz. (1) The thorough study of each individual degenerate who is a candidate for public care, and (2) his or her immediate placement under conditions best adapted to

correct, permanently, the physical defect which is found to be the predisposing or exciting cause of degeneracy. Adopted and intelligently enforced as a state policy, we cannot doubt that the Bureau of Social Science would convert our custodial into curative institutions, our prisons and reformatories into "Schools for Developing Manhood," as in Arizona, and our almshouses into industrial, self-supporting colonies. Indeed, might not these burdensome public charities become valuable assets rather than dependencies of the state?

Members of the Conference, we organize today and place in full operation in the field of philanthropy a new force. The field is the world of degenerate humanity and the force is the regenerating power of applied science. Our efforts hitherto to better the race have been largely actuated by sentiment and hence have failed of that directness and efficiency essential to the highest degree of permanent success. It should be the constant aim of the promoters of this Conference to establish its work on an enduring basis and to promulgate no opinions, nor conclusions, nor recommendations that are not sustained by the immutable truths of science.

The Conference is to be congratulated upon the favorable conditions of its first session in the Battle Creek Sanitarium. We cannot express in terms too complimentary our appreciation of the efforts of the Medical Director and the officers to render this initial meeting of the Conference in the highest degree successful. Every possible provision has been made for our comfort and entertainment and for the orderly conduct of the sessions of the Conference.

But perhaps the most important feature of our meeting is that we are guests of an Institution whose beneficent mission is to promote race betterment by teaching and practicing "The Art of Healthful Living." The entire Institution is instinct with the "Battle Creek Idea," which is also the basic principle of the Conference on Race Betterment,

Mens Sana in Corpore Sano.



Some members of the Central Committee, National Conference on Race Betterment. Top row—Sir Horace Plunkett, Dr. J. H. Kellogg, Hon. Gifford Pinchot. Seated—Col. S. S. McClure and Prof. Irving Fisher.

STATISTICAL STUDIES

THE SIGNIFICANCE OF A DECLINING DEATH RATE

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INTRODUCTION

The social and economic problems which arise out of a considerable decline in the general death rate, extending over a prolonged period of time, are much more serious and far-reaching than is generally assumed to be the case. In practically all civilized countries there is annually a considerable excess of births over deaths, the numerical excess being conditioned more generally by a low mortality than by a high fecundity. For illustration, a given country might have a birth rate of 40 and a death rate of 30, with a resulting annual natural increase of 10 per 1,000, whereas another country might have a birth rate of only 30 but a death rate of 15, with a resulting natural increase of 15 per 1,000. From an economic and social point of view a low birth rate and a low death rate would unquestionably be more advantageous than the opposite condition, which involves much needless waste of human energy and pecuniary expenditure.

For reasons which require no discussion, every civilized country desires a normal increase in population, though a high degree of social and economic well-being is not at all inconsistent with even a stationary population condition, such as for some years past has prevailed in France. It has properly been observed that the term population embraces the most extensive subject of political economy, and most of the observations and conclusions which follow, comprehend the problem of population increase throughout the world rather than the underlying elements of fecundity and mortality.

On account of the world-wide migratory movements of modern populations, involving the transport of vast numbers from one region to another, it has been necessary to include in the present discussion some very general and rather approximate statistics of population increase, resulting from an annual excess of births over deaths, with, however, numerous and necessary illustrations for the several continents and countries in detail. The population problem is no longer merely a local one, but practically conditions the material, moral, and political well-being of the inhabitants of the entire world, though, of course, to a variable degree.

THE POPULATION PROBLEM OF MODERN TIMES

From the time when Malthus first visualized in popular language the menace of a rapidly increasing population on the assumption of a less rapidly increasing food supply, much speculation has been indulged in as regards the ultimate results of population growth on the strictly limited land area of the globe. Much of what goes by the name of Malthusianism stands for something never said by Malthus in his classical "Principles of Population," just as much that stands for evolution or Darwinism was never given utterance or sanction by Darwin in his "Origin of Species," and the "Descent of Man."

Pre-Malthusian doctrines of population are of historical rather than practical interest, largely because of the imperfect statistical basis upon which most of the earlier estimates of population growth were based by writers in many respects sound in their philosophical and economic theories.

We have no modern contributions to the population problem which correspond to the elaborate and well-reasoned inquiries of William Godwin on "The Power of Increase in the Numbers of Mankind," published in 1820; of Michael Thomas Sadler on "The Law of Population," published in 1830; and Archibald Alison's treatise on "The Principles of Population, and Their Connection with Human Happiness," published in 1840.

Sir William Petty, in his famous essays on "Mankind and Political Arithmetic" (1682-87), assumed that a given population would double itself by a natural increase during a period of twelve hundred years. This estimate was well sustained by the experience of a period when plague, pestilence, famine, and wars frequently resulted in a stationary condition of population, or even in a substantial actual diminution. Petty, in one of his twelve considerations of the conditions which affect the increase in the numbers of mankind, properly included methods of preventing "the mischief of plagues and contagions," which, although only a theoretical assumption at that early period, foreshadowed the enormous sanitary progress of modern times and the realized ideals in the administrative control of the public health. There is nothing more instructive in this respect than the sanitary evolution of the city of London, so admirably set forth in a work by Henry Jephson, and the still larger and more useful work by Creighton on "The History of Epidemics in Britain," which is a monumental contribution to the progress in medical science, and all that is summed up in the term civilization, which is fundamentally conditioned by the highest attainable average duration of human life.

The world of today is not free from pestilence and plague, or

famine and war, but, comparing the present with the past, it is an absolutely safe assumption that the waste of human life was never relatively as small in the world's history as is the case at the present time. There are still vast areas of the world, such, for illustration, as India, where fevers, cholera, and plague cause an enormous annual mortality, best illustrated by the fact that during so recent and short a period as 1896-1912, there should have been over eight million deaths from plague in India, to say nothing of other sections of Asia similarly afflicted to a greater or less extent.

The relative significance of preventable diseases in their relation to the general death rate is best illustrated in the case of the Presidency of Bengal, where, during the year 1911, out of a total mortality of 32.69 per 1,000, 20.60 represented deaths from fevers;* 2.37, deaths from cholera; and 1.44, deaths from plague. These three groups of causes combined, therefore, accounted for a death rate of 24.41 per 1,000, or 74.7 per cent of the mortality from all causes. Considered by local areas in which cholera was particularly virulent, it appears that there were towns in which the death rate attained to the almost inconceivable proportion of 97.35 per 1,000 (Gaya), of which 11.87 was caused by cholera, 35.61 by fevers, and 19.99 by plague. Such conditions are extremely rare in modern civilized communities, although as illustrated in the cholera epidemic of the city of Hamburg,† the menace of serious local outbreaks is by no means a remote possibility.

The sanitary security of modern countries depends largely upon the highest attainable degree of efficiency in the control of so-called international diseases, and in this respect no country in the world has a better public health service than the United States.

* In explanation of the term "fevers" as used in the vital statistics of India, the following explanation is quoted from the First Report on Malaria in Bengal, by Major A. B. Fry, M.D.; Calcutta, 1912:

"Everything not cholera, smallpox or something equally obvious is put down as fever. In effect we have to accept the fact that fever deaths as reported comprise all deaths not due to these obvious diseases. Marasmic and premature infants, infants dying of tetanus neonatorum, improper feeding and bowel diseases, nearly all deaths from respiratory diseases, including both phthisis and pneumonia, measles, enteric fever, etc., etc., are included under the fever heading. Even cholera and plague are often returned as fever, especially at the commencement of an epidemic."

† During the cholera year of 1892, the general death rate of Hamburg was 39.5 per one thousand population. There were 13,948 cases of cholera, of which 5,805, or 41.6 per cent, were fatal. The cholera death rate for the year was 12.7 per one thousand, equivalent to 32.2 per cent of the death rate from all causes.

POPULATION DENSITY

The effect of excessive death rates on population increase is so obvious as not to require extended consideration. India, in 1911, had a birth rate of 38.6 per 1,000, and a death rate of 32.0. But for the prevalence of epidemic and largely preventable diseases the natural increase in population would have been much greater than was actually the case. Some observations regarding the world's population, its continental distribution and relative density, are, therefore, pertinent to the general discussion of the significance of a declining death rate, particularly with reference to population growth.

The number of inhabitants of the globe is conservatively estimated at 1,750,000,000, and assuming that the land area of the earth is about 52,000,000 square miles, the resulting density is approximately 34 persons per square mile. For the European continent the density is 121 persons; for Asia, 57; for Africa, 12; for North America, 15; for South America, 7; and for Australia, including New Zealand, 2.3. The facts, in detail, are given in the table following:

APPROXIMATE DENSITY OF THE WORLD'S POPULATION, ESTIMATED BY
CONTINENTS FOR THE YEAR 1911

Continent	Area in Sq. Miles	Population	Pop. per Sq. Mile
Europe	3,833,567	463,997,000	121.0
Asia	16,997,639	962,233,000	56.6
Africa	11,760,689	135,987,000	11.6
North America	8,631,657	127,993,000	14.8
South America	7,184,021	51,193,000	7.1
Australasia	3,317,762	7,572,000	2.3
Total land area*	51,725,335	1,748,975,000	33.8

* Does not include the practically uninhabited polar regions.

It seems unnecessary on this occasion to discuss in detail the relative density of population of different countries or political subdivisions, but it may be said that for the more important countries the range in density is approximately from an extreme of 659 persons per square mile in Belgium, 475 in the Netherlands, 374 in the United Kingdom, and 343 in Japan, to a minimum of 31 for the United States, 13 for the Union of South Africa, 6 for Brazil, 2 for Canada, and 1.6 for the Commonwealth of Australia.

Contrarily to the common assumption as regards the "teeming millions" of the Far East, it may be pointed out in this connection that the density of population for China is approximately 100 persons per square mile, and for British India, 178. The term "density of population" is, of course, only relative in that the same has no reference to the actual distribution of population over a given area.* A country

* For an interesting discussion of what is assumed to be a new law of population concentration, see an article in Petermanns *Geogr. Mitteilungen*, February, 1913, entitled "Das Gesetz der Bevölkerungs Konzentration," by Dr. Felix Auerbach.

may have a relatively high density, due to a vast aggregation of population in a few cities, and another may have a relatively low but more widely dispersed density of far greater economic importance. The latter condition, for illustration, prevails in India, which in part explains the extreme difficulties of effective methods of local sanitary control.

It would also be an error to forecast, on the basis of the foregoing estimates of density, the probable future limits of population growth. Belgium, with the highest relative density, is one of the most prosperous countries of Europe, but is dependent almost entirely for its food supply upon other countries, in which as yet the density of population is very considerably below the average for at least the European continent. There can be no question of doubt but that vast opportunities still exist for a very substantial increase in the number of the earth's inhabitants, but considering the attained degree of density in certain countries, and the unconditional dependence of population aggregates for their food supply upon more sparsely settled areas, assumptions regarding the future possibilities of population increase are likely to be exaggerated since the pressure upon the limited available means of subsistence must become more generally operative than is the case at the present time.

GROWTH OF THE WORLD'S POPULATION

The growth of the world's population is naturally determined by the excess of births over deaths and the resulting gradual accumulation of the new-born over the diminishing remnants of previous generations. A persistently and rapidly declining death rate, therefore, unless offset by an equal decline in the birth rate, must, in course of time, result in a proportionately more rapid increase in population than has been observed to have taken place during historic periods of time. The ultimate effect of such an accumulation of births over deaths must be in geometrical rather than in arithmetical proportions, in the same manner as in pecuniary calculations the results of compound interest are considerably in excess of the yield of money invested at simple interest only.

Accepting, for the present purpose, the estimate of the world's population for 1900, of 1,607,000,000, as given by Sundberg, and my own estimate for 1911 of 1,749,000,000, there has been an annual increase during the intervening period of 12,883,000, or at the rate of 7.7 per 1,000. For purposes of comparison, it may be stated that during the same period of time the population of the continental United States has increased from 75,994,575 in 1900 to 93,927,342 in 1911, the annual increment of population being 1,630,252, equivalent

to 19.45 per 1,000. The density of population in the continental United States per square mile has increased since 1860 from 10.6 to 16.9 in 1880 and from 25.6 in 1900 to 32.1 in 1912.

Comparing or contrasting the present population conditions of this country with other relatively well-developed sections of the globe, we are far from having reached a point which can be considered particularly alarming, but it would certainly be a serious error to reason from general principles in a matter of this kind, since the problem of over-population, especially with reference to economic conditions, is always, in its final analysis, largely a local one. Thus, for illustration, the present density of Rhode Island is 508.5 persons per square mile; of Massachusetts, 418.8; of New Jersey, 337.7; of Connecticut, 231.3; and of New York, 191.2. For all of New England the density is 105.7, and for the Middle Atlantic States, 193.2.

All of the available statistical information seems to justify the conclusion that the world's population in general, and of the more civilized countries in particular, is increasing at the present time at a more rapid rate than in earlier years—a condition largely the result of a persistent and considerable decline in the death rate, which is more than an offset to the observed decline in the birth rate. There are, of course, important exceptions to this conclusion, which has reference to vast continental aggregates rather than to some of even the largest political subdivisions of the same. In some of these the conditions of population growth are so seriously disturbed by migration, immigration and emigration, and variations of fecundity and mortality due to racial distribution, that precise conclusions are hardly warranted in the present imperfect state of population and vital statistics.

FORECASTS OF POPULATION GROWTH

Estimates of the future population of the United States have been many and in a number of instances they have been verified with remarkable accuracy when limited to a reasonable period of time. Darby, for illustration, in his "View of the United States," published in 1828, made a forecast of the white population, which for 1850 was placed by him at 20,412,000, and which was ascertained by the census to be 19,553,000. Many similar estimates have been sustained by subsequent experience, but as a rule the rate of fecundity has been taken too high, especially for the colored population, by writers basing their views upon the observed rate of increase of the negro population during a condition of slavery. Even DeBow conceded a diminishing proportion of negro population with an increase in aggregate growth in population fully sustained by subsequent experience. DeBow, in 1862, estimated the negro population of the United States for 1880 at

6,591,000, whereas by the census for that year the same was ascertained to be 6,580,000. All estimates of this kind are certain to fail if projected too far forward, but they are unquestionably approximately trustworthy for relatively short periods of time, and for many purposes are of considerable practical value. On the assumption, therefore, that the decennial rate of increase in the population growth of the United States will gradually diminish, partly because of a probable decline in immigration and a possible further reduction in the birth rate, the following forecast is included in this discussion as a concrete illustration of the probable population conditions likely to exist in the continental United States within a measurable period of time.

POPULATION ESTIMATE FOR THE CONTINENTAL UNITED STATES, 1910-1960

Year—Census	Population	Density per Sq. Mile
1910	91,972,000	30.93
1920	109,999,000	36.98
1930	130,019,000	43.72
1940	151,862,000	51.06
1950	175,248,000	58.92
1960	199,783,000	67.17

According to this table the approximate density of the United States by 1960, assuming a normal rate of increase during the intervening period, would only be 67 persons per square mile, or about one-fifth of the present density of the German Empire. Granting that the immediate outlook for the future is not as serious with us as with some other nations, it is self-evident that the social, economic, and political problems resulting from an augmentation in the number of inhabitants and the gradual accumulation of vast aggregates of people, aside from the mere problem of density itself, must be among the most serious conceivable and, therefore, as such, they are properly entitled to an extended critical and impartial consideration at the present time.

TENDENCY TO CITY GROWTH

The trend of the population all over the civilized world is today towards the cities, which now contain a vastly larger number of inhabitants than during any other period of time in recorded history. The problem of urbanization, from a historic, geographic and an economic point of view, has been ably treated by Prof. Pierre Clerget, who includes in his discourse estimates of population for ancient cities, which, however, are more or less conjectural. The same conclusion applies to the dissertation on the "Numbers of Mankind in Ancient and Modern Times," by Robert Wallace, published in Edinburgh in 1809; and the speculations of Sir William Petty, Gregory King, and others whose writings on population estimates were previous to the nineteenth century, which marks the dawn of modern census inquiries,

or the accurate enumeration of the numbers of mankind, for at least the civilized portion of the globe. Sufficient information, however, of a general nature is available to warrant the assumption that in earlier periods the proportion of urban population was much less than at the present time, and this certainly is true of the United States, for which we have accurate data since 1790. During the twelve intercensal periods the proportion of urban population has constantly increased. The proportion of urban population (which term includes all incorporated places of 2,500 inhabitants or more) has increased from 29.5 per cent in 1880 to 46.3 per cent in 1910. During the last decade the urban population has increased 34.8 per cent, or in actual numbers 11,014,000, as against an increase of only 11.2 per cent for rural territory, or 4,964,000.

RATE OF NATURAL INCREASE IN POPULATION

The sanitary progress of civilized countries, to which primarily must be attributed the observed decline in the death rate, to be subsequently discussed in more detail, has naturally been more effective in the large cities than in the smaller communities or the strictly rural territory. Granting that the birth rate of cities is below that of rural sections, it is quite possible that there is a larger excess of births over deaths in modern cities in consequence of the remarkable results of sanitary administration and control. The annual excess of births over deaths varies, however, quite widely for the different countries, geographical subdivisions and cities of the world, and in some exceptional cases even in civilized countries the deaths may exceed the births, as is well known to be true of modern France. On the basis of the best estimate possible, the present rate of natural increase for the world as a whole is approximately 7.6 per 1,000 of population, equivalent to an actual increase per annum of 13,260,000. This estimate is based largely on the registration returns of civilized countries having an aggregate population of 834,000,000, and an excess of births over deaths of 9.3 per annum. The birth rate for these countries is 34.3 per 1,000, and the death rate 25.0. The estimate, therefore, is quite conservative, and in all probability the actual increase is greater than that assumed. For the non-registration countries I have assumed an annual excess of births over deaths of only 5.8 per 1,000, which is considerably below the normal excess of births over deaths in the registration countries of Asia, which include nearly all of India, the Island of Ceylon, the French possessions in Cochin-China and the Empire of Japan. For these four countries combined the natural increase per annum, or excess of births over deaths, is 7.3 per 1,000, or the annual difference between a birth rate of 38.4 and a death rate of 31.1.

It seems a safe assumption that in the remainder of the world, for which information is not available, the probable rate of natural increase is about 5.8 per 1,000. With an annual increase of 7.6 per 1,000, assuming no further improvement in the general death rate, which, however, is most likely to occur, the world's population may be expected to double itself in about ninety years. Since the death rates throughout the civilized, as well as the uncivilized, world are known to be generally declining, the rate of doubling the population is quite possibly to be achieved in even a shorter period of time. A summary statement of the estimated natural increase of the world's population is given in the table below:

ESTIMATED ANNUAL NATURAL INCREASE OF THE WORLD'S POPULATION
AS BASED ON THE MOST TRUSTWORTHY REGISTRATION RETURNS
FOR RECENT YEARS, CHIEFLY FOR 1911

Continents	Estimated Population	Estimated No. of		Estimated Annual Natural Increase per 1,000 of Population	Estimated Annual Natural Increase
		Births	Deaths		
Europe	463,997,000	15,545,640	10,657,220	10.5	4,888,420
Asia	962,233,000	37,306,800	31,753,670	5.8	5,553,130
Africa	135,987,000	5,279,140	4,348,324	6.8	930,816
North America	127,993,000	3,495,400	2,286,800	9.4	1,208,600
South America	51,193,000	1,950,940	1,368,150	11.4	582,790
Australasia	7,572,000	214,718	118,071	12.8	96,647
Total*	1,748,975,000	63,792,638	50,532,235	7.6	13,260,403

*The world's birth rate is estimated at 36.5, and the death rate at 28.9, per one thousand of population.

DECLINING DEATH RATES OF CIVILIZED COUNTRIES

It is only for comparatively recent periods that trustworthy vital statistics are available for a considerable portion of the world with local climatic, racial or other conditions sufficiently varied to disclose the approximate range in the rate of mortality and the evidence of its reduction or increase, as the case may be. For the registration area of the world the mortality rate at the present time is approximately 25 per 1,000 per annum, which is considerably in excess of the death rate for the more important civilized countries such as, for illustration, the German Empire, where the rate is 17.3; England and Wales, 14.6; France, 19.6; United States, 14.7, and the Commonwealth of Australia, only 10.7. These comparatively low death rates contrast with the still prevailing excessive death rates of certain other countries, as, for illustration, 23.7 per 1,000 for Spain, 25.0 for Hungary, 30.5 for Russia, 31.1 for Mexico, 33.2 for India, and 40.9 for twenty cities of Egypt. During the last thirty years, however, the general death rate in most of the principal countries of the world has declined, but since the evidence in detail does not permit of a con-

venient summary discussion, the following comparisons are limited to the two five-year periods ending, respectively, with 1885 and 1910. The observed decrease in the rate is, in each case, the reduction per one thousand of population, carefully calculated on the basis of available census returns.*

During the thirty years under observation the general death rate declined in the Australian Commonwealth from 15.7 to 10.7; in Austria, from 30.1 to 22.3; in Denmark, from 48.4 to 13.7; in England and Wales, from 19.4 to 14.7; in Finland, from 22.2 to 17.4; in France, from 22.2 to 19.2; in the German Empire, from 25.3 to 17.9; in Hungary, from 33.1 to 25.0; in Ireland, from 18.0 to 17.3; in Italy, from 27.3 to 21.0; in the Netherlands, from 21.4 to 14.3; in New Zealand, from 10.9 to 9.7; in Norway, from 17.2 to 13.8; in Scotland, from 19.6 to 16.1; in Spain, from 32.6 to 24.3; in Sweden, from 17.5 to 14.3; and, finally, in Switzerland, from 21.3 to 16.0. For a few of these countries the decline in the rate has not been of much actual importance, but in practically all of the countries the tendency of the death rate during the last thirty years has been persistently downward, and the present indications are that there has been a still further decline in the rate during the last three years. Combining the mortality of the principal civilized countries, there has been a general reduction in the crude death rate from 25.09 per one thousand during the five years ending with 1885 to 19.26 per one thousand during the five years ending with 1910, an actual decrease of 5.92 per one thousand, equivalent to 23.2 per cent. The relative decrease in the rate has been most pronounced in the Netherlands, where the present rate is only 63 per cent of the rate prevailing thirty years ago. The corresponding figure for the registration area of the United States is 76 per cent; and for a few other countries, respectively, England and Wales, 71 per cent; Denmark, 71 per cent; Belgium, 72 per cent; the Australian Commonwealth, 71 per cent; Finland, 66 per cent; German Empire, 72 per cent; Italy, 71 per cent; and Switzerland, 67 per cent.†

It requires to be said in this connection that the foregoing rates are not corrected or standardized for variations or changes in the age

* The international vital statistics are derived most conveniently from the annual reports of the Registrar-General of England and Wales.

† The remarkable uniformity in the rate of mortality decrease for representative countries during the last thirty years suggests that the diminution is the result of more or less uniformly operating causes making for the deliberate reduction of the death rate in consequence of practically identical methods in sanitary administration and persistent progress in the practice of medicine, surgery, and personal hygiene.

and sex constitutions of the respective populations considered. Such corrections would have involved much labor, with but a slight probability that the resulting conclusions would have been materially modified. The results are verified and otherwise sustained by numerous specialized mortality studies on the basis of scientifically constructed life tables for the more important countries and geographical subdivisions of the world, particularly the German Empire and its constituent states, England and Wales, the Australian Commonwealth, New Zealand, etc. The observed decline in the general death rate and the corresponding increase in human longevity may, therefore, safely be accepted as a world phenomenon, and granting this, it is difficult to conceive of a more important conclusion affecting the future well-being of all mankind.

DECLINE IN THE DEATH RATE OF THE UNITED STATES

In the foregoing discussion no reference has been made to the statistics in detail for the United States, since for the earlier period no data are available which would be strictly comparable with those of recent years. Most of the following observations are, therefore, limited to the decade ending with 1910, for which the registration returns are, broadly speaking, representative for the country at large. Comparing the five-year period ending with 1905, with the corresponding period ending with 1910, there has been a decline in the general death rate from 16.2 to 15.1 per 1,000. In the table following are brought together the official statistics for the United States from 1880 down to 1913, when the rate was only 14.1 per 1,000 of population. Taking the approximate rate for 1880 as 100, the corresponding rate for 1913 was only 71. In part, of course, it is quite probable that the decline in the mortality has been slightly affected by the large immigration during the last thirty years, but in a general way the evidence is conclusive that the reduction in mortality is the result of a nation-wide improvement in sanitary conditions and increasing effectiveness of federal, state and municipal sanitary control.

GENERAL DEATH RATE OF THE UNITED STATES REGISTRATION AREA, 1880-1913

Year	Population	Deaths	Rate per 1,000
1880	8,538,000	169,060	19.8
1890	19,659,440	386,212	19.6
1900	30,765,618	539,939	17.6
1905	34,094,605	545,533	16.0
1910	53,843,896	805,412	15.0
1911	59,275,977	839,284	14.2
1912	60,427,133	838,251	13.9
1913	63,299,164	890,823	14.1

REDUCTION IN DEATH RATE, BY AGE AND SEX

Information is fortunately available for the United States registration area of 1900 to establish with approximate accuracy the changes in the death rate, by divisional periods of life during the intervening decade, ending with 1911. The table following has been derived from Bulletin No. 112 of the Division of Vital Statistics of the Bureau of the Census. The table exhibits the death rates per 1,000 of population at specified age periods, and the percentage which the death rate in 1911 represents of the rate prevailing in 1900, with the required distinction of sex:

COMPARATIVE DEATH RATE OF THE UNITED STATES REGISTRATION STATES BY DIVISIONAL PERIODS OF LIFE, 1900-1911

Age Group	Death Rate* per 1000 Population for States** included in Registration Area in 1911			1900			Per Cent Death Rate in 1911 Represents of That in 1900:		
	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females
All ages:									
Crude rate	14.9	15.8	14.0	17.2	17.9	16.5	87	88	85
Corrected rate ***	14.6	15.3	13.9	17.0	17.6	16.5	86	87	84
Under 5 years	36.6	39.8	33.3	49.9	54.1	45.7	73	74	73
Under 1 year	125.5	138.6	112.1	161.9	178.4	145.0	78	78	77
1 to 4 years	12.8	13.3	12.2	19.8	20.4	19.1	65	65	64
5 to 9 years	3.2	3.4	3.1	4.7	4.7	4.6	68	72	67
10 to 14 years	2.2	2.4	2.1	3.0	2.9	3.1	73	83	68
15 to 19 years	3.5	3.7	3.3	4.8	4.9	4.8	73	76	69
20 to 24 years	5.0	5.3	4.7	6.8	7.0	6.7	74	76	70
25 to 34 years	6.3	6.7	6.0	8.2	8.3	8.2	77	81	73
35 to 44 years	9.4	10.4	8.3	10.3	10.8	9.8	91	96	85
45 to 54 years	14.5	16.1	12.9	15.0	15.8	14.2	97	102	91
55 to 64 years	28.4	30.9	26.0	27.3	28.8	25.8	104	107	101
65 to 74 years	58.3	61.6	55.1	56.5	59.5	53.7	103	104	103
75 years and over	143.0	147.4	139.2	142.4	145.9	139.3	100	101	100

* Exclusive of still-births. ** Group includes Connecticut, the District of Columbia, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. *** Based on the standard million of England and Wales, 1901.

The foregoing table emphasizes the fact, not generally known or thoroughly understood, that the observed decline in the American death rate has been chiefly at ages under 35, and that at ages 35-44, for illustration, the relative rate for 1911 was 91 per cent of the rate for 1900; at ages 45-54, it was 97 per cent; at ages 55-64 it was 104 per cent; at ages 65-74, 103 per cent; and at ages 75 and over it was 100 per cent. In other words, at ages 55 and over the death rate has actually increased, which is the more significant when the relatively considerable decrease at the earlier ages is taken into account.

DECLINE IN THE DEATH RATE BY STATES

The next table shows the decline in the death rate corrected for age in the several registration states of the United States as existing in the year 1900:

COMPARATIVE DEATH RATES BY STATES, 1900-1911

Area	Corrected* Death Rate per 1,000 Population			1911			1900			Per Cent Death Rate in 1911 Represents of That in 1900:		
	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females
States included in registration area of 1900	14.6	15.3	13.9	17.0	17.6	16.5	86	87	84			
Connecticut	14.8	15.7	14.0	17.4	18.1	16.7	85	87	84			
District of Columbia	18.9	20.8	17.2	24.4	26.1	22.6	77	80	76			
Indiana	12.3	12.4	12.2	14.4	14.2	14.6	85	87	84			
Maine	13.0	13.3	12.6	14.9	14.7	15.0	87	90	84			
Massachusetts	15.0	16.0	14.1	18.1	19.0	17.3	83	84	82			
Michigan	12.4	12.9	12.0	13.9	14.0	13.8	89	92	87			
New Hampshire	14.2	14.7	13.8	16.3	16.4	16.3	87	90	85			
New Jersey	15.1	16.1	14.3	18.2	19.3	17.0	83	83	84			
New York	15.7	16.7	14.8	18.3	19.1	17.4	86	87	85			
Rhode Island	15.7	16.8	14.8	20.9	21.6	20.2	75	78	73			
Vermont	12.6	12.7	12.5	13.8	13.7	13.9	91	93	90			

* Corrected on basis of standard million of England and Wales, 1901.

The table is self-explanatory and requires no discussion, but it may be pointed out that there has been a decrease in the death rate corrected for age in all of the registration states, but to a variable degree, the decline for both sexes combined having been greatest in the state of Rhode Island and least in the state of Vermont.*

DECLINE IN THE DEATH RATE OF CITIES

The evidence of a declining death rate is still more conclusive and suggestive for the large cities of the United States and of other civilized countries of the world. Combining all of the American cities for which trustworthy data were available in 1870, the rate for that year was 25.5 per 1,000, which by 1872 had increased to 28.6; by 1890 the rate had declined to 21.8; by 1900 to 18.8; by 1910 to 16.5; and by 1911 to 15.6. The evidence already available seems to prove that the rate for 1912 was the lowest on record. The rate for recent years is

* The following table exhibits the changes in the age distribution of the population of the United States on a percentage basis, showing respectively for the several census years the proportionate population at ages under 5, 5 to 64, and 65 and over since 1880. The observed changes cannot be considered sufficient to seriously impair the conclusion that the crude death rate of the registration area indicates with approximate accuracy the mortality tendency of the United States during the last thirty years.

PERCENTAGE DISTRIBUTION BY AGE PERIODS OF THE POPULATION OF THE UNITED STATES—1880-1910

Ages	1880	1890	1900	1910
	%	%	%	%
0-4	13.8	12.2	12.1	11.6
5-64	82.8	83.9	83.8	84.1
65-over	3.4	3.9	4.1	4.3
All ages	100.0	100.0	100.0	100.0

based upon the combined returns for fifty cities, with an aggregate population of nearly twenty millions.*

During the last thirty years the death rate of large cities of this and other countries has declined as follows, the comparison being limited to the quinquennial periods ending respectively with 1885 and 1910: The death rate of London decreased from 20.9 to 14.0 per 1,000; of Dublin, from 27.5 to 21.6; of Paris, from 24.4 to 17.5; of Amsterdam, from 25.1 to 13.1; of St. Petersburg, from 32.8 to 25.5; of Berlin, from 26.5 to 15.5; of Vienna, from 28.2 to 17.0; of Budapest, from 31.5 to 19.5; of Milan, from 30.3 to 19.3; of Melbourne, Victoria, from 20.1 to 13.1; of Sydney, New South Wales, from 20.8 to 10.5; of New York, from 27.5 to 17.0; of Chicago, from 21.5 to 14.5; and of Philadelphia, from 22.3 to 17.7. This comparison is exceedingly instructive, emphasizing, as it does, on the basis of trustworthy data, the conclusion that the decline in the death rate is world-wide, and that in practically all the large centers of population the rate has declined, the decrease varying from approximately one-fifth to one-third or more during the thirty-year period, with definite indications of a further reduction in the rate since 1910 in nearly all the localities, states and countries considered in the present discussion.

IMPROVEMENTS IN THE LONGEVITY OF PRIMITIVE RACES

The foregoing conclusions are based entirely upon the returns for civilized countries with well established sanitary departments and effective statutory requirements providing methods and means of sanitary control. Evidence, however, is also available for the so-called non-civilized countries of the world to warrant the conclusion that the longevity of primitive races is increasing and that the conditions favorable to the acclimatization of white races in the tropics are constantly and rapidly improving. This conclusion applies particularly to the vast areas inhabited by the primitive or non-European

* The death rate of the registration area for the year 1912 was 13.9 per one thousand. During 1913 the rate increased slightly, to 14.1. The rates for the five largest cities down to 1913 were as follows:

DEATH RATES OF LARGE AMERICAN CITIES, 1901-1913.

(Rate per 1,000)

Years	New York	Chicago	Philadelphia	St. Louis	Boston
1901-05.....	19.0	14.5	18.1	17.9	18.8
1906-10.....	16.9	14.9	17.7	15.6	17.9
1911.....	15.2	14.5	16.6	15.4	17.1
1912.....	14.5	14.8	15.3	14.9	16.4
1913.....	14.3	15.1	15.7	14.9	16.4

From Preliminary Announcement of Division of Vital Statistics, U. S. Census Office, May 19, 1914.

racess of Asia, chiefly of China, Formosa, the English and Dutch East Indies, Ceylon, the Straits Settlements, and Siam. The conclusion also applies to most of the European possessions in Africa and to vast territories in South and Central America and Australia. For India the evidence is quite conclusive that a material improvement is taking place in the health of the people, which is best illustrated by the statistics of European troops since the beginning of the nineteenth century. The death rate has declined from 84.6 per 1,000 during the period 1801-30 to 19.3 during the decade ending with 1879, a further reduction having taken place during the subsequent period, the rate for 1901-05 having been 12.2; for 1906-09, 8.7; and finally, for 1911 the rate was only 4.9. A corresponding decline in the death rate of native troops has taken place, but limiting the discussion to recent years, it declined from 10.0 during 1901-05 to 6.5 during 1906-09, and to 4.5 during 1911. These are exceptionally encouraging statistics, which have their most interesting parallel in the remarkable sanitary achievements in the American administration of the Panama Canal Zone under the efficient direction of Col. W. C. Gorgas. During the French administration, 1881-90, the average death rate of the Isthmian Canal employees was 61.3 per 1,000. During the American administration, 1904-12, the average rate was only 16.3; and during the last year of the period, only 9.2—an achievement probably without a parallel in sanitation history. The annual death rate of the city of Panama in 1887 had reached the almost incredible proportions of 121.7 per 1,000, but the rate has gradually been reduced until in 1912 it was only 29.3. As another interesting illustration of the observed decline in the death rate of tropical countries, a reference may be made to the mortality of non-native British officials in West Africa since 1905, the rate having been reduced from an average of 28.1 per 1,000 during that year to 17.3 by 1909, and to only 12.4 by 1912.* At the same time, there has been an increase in the average length of service from three years and six months in 1905 to six years and three months in 1912; and a substantial reduction

* See also the Reports for 1912 on Blackwater Fever in the Tropical African Dependencies, published as Parliamentary Paper Cd. 7211, London, 1914. Also "Medizinal-Berichte uber die Deutschen Schutzgebiete," published Berlin, 1913, including reports on all the German Colonies, with extended observations on tropical diseases and the mortality of Europeans. Interesting in this connection is the Statistical Analysis of the Mortality of Scandinavian Missionaries in the Congo Free State, 1878-1904. That the improved tropical mortality is also reflected in the experience of life insurance companies transacting business in tropical countries is brought out by a paper on the subject in the Proceedings of the Actuarial Society of America for 1908, by Arthur Hunter, with an extended discussion by other members of the society.

was also obtained in the rate of invaliding, from 62.3 per 1,000 in 1905 to only 28.2 in 1912. The death rate of Algeria, which was once considered extremely unhealthful, has been reduced to 19.6 per 1,000 in 1911, and a large portion of the country has become a health resort for Europeans. The death rate of Madagascar in 1911 was 26.5 per 1,000, and of Cochin-China, 26.2. In the West Indies the death rates are diminishing, the rate for Cuba being only 14.7 per 1,000; for the Dutch West Indies, 16.9; for Guatemala, 18.5; for Honduras, 18.7; for Salvador, 22.8; and British Guiana, which in former years had a very high death rate, has now a rate of only 31.7, whereas for Venezuela the rate for 1911 was 20.3. All of these rates may safely be accepted as evidence of a gradual diminution in the mortality of so-called non-civilized, or only partly civilized, countries, largely inhabited by primitive or other than white races living chiefly in the temperate zone.*

SANITARY PROGRESS OF TROPICAL COUNTRIES

A truly vast amount of instructive information is available for so-called uncivilized countries illustrating the sanitary progress which is being made, largely, of course, in consequence of the white man's conquest of tropical regions, and which is bound, in course of time, to afford almost inconceivable opportunities for settlement and the rational development of natural resources. Attention may properly be directed on this occasion to the annual reports on the moral and material progress and condition of India, of which the 58th was published during the present year; the report of the International Plague Congress, held at Mukden in April, 1911, which constitutes one of the most notable contributions to epidemiology; the annual medical reports on the German Colonial Possessions; the reports of the Advisory Committee of the Tropical Diseases Research Fund; the proceedings of the International Conference on the Sleeping Sickness, the English reports on Blackwater Fever in Tropical African Dependencies; the scientific reports of the Wellcome Tropical Research Laboratories in Khartoum, Egypt; the scientific publications and special local investigations in tropical countries of the tropical medical schools in Liverpool, Hamburg, Townsville (Queensland), London and New Orleans. Mention also requires to be made of the excellent report of Prof. W. J. Simpson, on sanitary matters in various West African

* The mortality statistics for Central and South America require of course to be accepted with extreme caution. The favorable conclusions regarding the decline in the South and Central American death rates are based upon an extended study of the facts, with particular reference to Yellow Fever and Malaria. A full discussion of the mortality of the Western Hemisphere is reserved for future consideration.

Colonies, and on the outbreak of plague on the Gold Coast. For all of the British and German West African colonies thoroughly scientific reports are now being published which, without exception, reflect the evidence of more or less rapid strides in necessary sanitary reforms. The late Sir Hubert Boyce has admirably reported upon the health progress in administration in the West Indies; and the Japanese Government has brought about a veritable hygienic revolution in the administration of Formosa, particularly in the reduction of the incidence of malaria. All of these efforts, which are but a mere fragment of what is actually being done in the sanitary administration of Colonial possessions throughout the world, including the Philippines,* Hawaii, and Porto Rico, indicate a gradual reduction in the mortality from preventable diseases among both native and white races in the tropics. The inevitable consequence must be a larger rate of natural increase and a proportionately more rapid augmentation of the population of those sections of the globe which constitute to a not inconsiderable extent the future sources of the world's food supply.†

THE PRINCIPAL CAUSES OF DEATH

The human death rate is the resultant of a large number of known or unknown, obvious or obscure, causes and conditions destructive to human life. Many of these causes are now known to be preventable

* A practical illustration of the methods of sanitary administration in the Philippines is the "Sanitary Inspector's Handbook," published by the Bureau of Health of the Department of the Interior of the Government of the Philippine Islands. Also the Special Report of Dean C. Worcester on the History of Asiatic Cholera in the Philippine Islands, published in 1909. The progress which is being made in the control of beriberi is best illustrated in the Studies of the Institute for Medical Research of the Federated Malay States, published in 1911, and the monograph on the Etiology of beriberi by Frazer and Stanton, derived from the same source and reprinted in the *Philippine Journal of Science* for 1910. For a more extended study of this important subject, with particular reference to the diagnosis and prevalence of the disease, the elaborate Treatise on beriberi by Edward Vedder, M.D., published by William Wood & Co., 1913, should be consulted. In 1912 there were 12 deaths from beriberi in the registration area of the United States, but there are convincing reasons for believing that the disease is much more prevalent than is generally known.

† Indications of health progress in arctic regions are to be found in the Medical Handbook for the Alaska School Service, issued by the United States Bureau of Education in 1913, and the Special Reports of the United States Public Health Service on Tuberculosis among Eskimos. A material improvement in the health conditions of the population of Labrador and the northern outposts of Newfoundland has resulted from the admirable work of the Grenfell Medical Missions at Battle Harbor and other far northern points.

and subject to administrative control. The immediate or remotely contributory causes of death are comparatively few and simple among primitive races, and relatively numerous and complex among civilized mankind. The hygiene of transmissible diseases is a modern branch of medicine, based upon the epoch-making discoveries of Koch, Pasteur, Ross, Reed, and others whose work has been of incalculable benefit to all mankind. Cholera, malaria, plague, smallpox, typhoid fever, and yellow fever are no longer a serious menace to civilized countries, since their nature and mode of transmission are thoroughly understood, and preventive measures are applied with increasing effectiveness, and in some cases with absolute certainty, as is well illustrated in the history of recent sporadic outbreaks, or the occurrence of isolated cases of plague and leprosy on the East and West coasts of the United States. The best known of these diseases, typhoid fever, has gradually been reduced from an average rate of 35.9 per one hundred thousand during 1900 to 16.5 during 1912. In the United States during 1911 the ten principal causes of death, accounting for 66.6 per cent of the mortality from all causes, were, in the order of their importance, organic diseases of the heart (10.0 per cent), tuberculosis of the lungs (9.7 per cent), acute nephritis and Bright's disease (6.9 per cent), accidents and homicides (6.4 per cent), pneumonia (6.3 per cent), respiratory diseases other than pneumonia and tuberculosis of the lungs (5.6 per cent), congenital debility and malformations (5.6 per cent), diarrhea and enteritis, under two years (5.5 per cent), cerebral hemorrhage and softening of the brain (5.4 per cent), and, finally, cancer and other malignant diseases (5.2 per cent). In marked contrast, the mortality of India during the same year was chiefly the result of six principal causes, being, in the order of their importance, fevers, accounting for 55.0 per cent, plague for 9.6 per cent, cholera for 4.6 per cent, dysentery and diarrhea for 3.5 per cent, respiratory diseases for 3.1 per cent, and smallpox for 0.8 per cent. The six groups of causes combined accounted for 76.6 per cent of the mortality of India from all causes.

INDIA MEDICAL STATISTICS

The general death rate of the registration area of the United States in 1911 was 14.2 per 1,000, while the corresponding rate for the registration area of India was 32.0. The combined fever death rate, including typhoid, typhus, and malaria, was only 2.4 per 10,000 of population for the United States, against 176.3 for India. If, therefore, in the course of time the fever problem in India can be solved along much the same lines as has been the case in some other tropical countries, the general death rate of the Far East would be reduced

to perhaps one-half of its present proportions. Astonishing medical and sanitary progress has been made in India, as is evident from the numerous official and other accounts, but mention can here only be made of the proceedings of the Second All-India Sanitary Conference, held at Madras in 1912, and the report on investigations into the causes of malaria in Bombay, to give emphasis to the conclusion that a material reduction in the fever death rate of India will unquestionably be brought about within another generation. The problems awaiting solution are truly of colossal proportions, complicated as they are by the economic condition of the people, their exceptional racial and religious distribution, the profound adherence to caste and custom, etc. Should this expectation be fulfilled, the present small natural increase of India of only 6.58 per 1,000 of population, or the annual difference between the birth rate of 38.59 and the death rate of 32.01, could easily be doubled, or in any event be made to attain the normal average for fairly well civilized countries, of approximately 10 per 1,000 per annum. If, in addition thereto, the cholera mortality of India, which now accounts for about 390,000 deaths per annum, and the even larger annual mortality from plague could be brought under control and materially reduced, it is self-evident that there are almost inconceivable possibilities for a much more rapid increase in the population of India and other countries of the Far East than have prevailed in historic periods of time.*

REDUCTION IN THE DEATH RATE BY CAUSES

An extended consideration of the diminution in the death rate from specified causes would unduly enlarge the present discussion. The following observations are therefore limited to the registration

* There are no better illustrations of sanitary progress in its relation to population increase than the reports of sanitary conferences in the different provinces of India. The Report of the Punjab Sanitary Conference, held under date of August, 1913, includes an extended consideration of such important questions as rural sanitation, town-planning, sanitation in connection with schools and the problem of control in the case of specific diseases, particularly malaria, tuberculosis, plague and cholera. After calling attention to the reduction in the urban death rate in the Punjab, amounting to about 4.5 per one thousand of population, it is calculated that this reduction is equivalent to the saving of some 8,700 lives every year in the municipal towns, which would otherwise have been sacrificed. It has been pointed out in this connection in a review of the census of India for 1911, by Sir J. A. Baines, that half the net increase in the population of India during the past decade took place in subdivisions which had less than 150 persons per square mile, and very little of it in those which had over 450; a substantial reduction in the death rate of large centers of population must therefore result in a considerable additional increase in population.

area of the United States, which may be accepted as fairly typical of other civilized countries of the world. The rates are limited to the two quinquennial periods ending respectively with 1905 and 1910, since no earlier comparative data are conveniently available for the registration area of this country. The rates for specified causes are given on the basis of 100,000 population, and for the principal causes the reduction during the last five-year period, compared with the first, has been as follows: typhoid fever has been reduced from 32.0 to 25.6; smallpox, from 3.4 to 0.2; diphtheria and croup, from 29.6 to 22.4; influenza, from 19.9 to 16.4; purulent infections, from 6.1 to 3.8; tetanus from 3.5 to 2.7; tuberculosis, all forms, from 192.6 to 168.7; chronic rheumatism and gout, from 3.6 to 2.2; alcoholism, chronic and acute, from 6.1 to 5.8; meningitis, from 31.7 to 19.4; softening of the brain, from 3.7 to 2.5; paralysis (not otherwise specified), from 20.1 to 16.1; general paralysis of the insane, from 6.8 to 5.5; epilepsy, from 4.4 to 4.2; convulsions of infants, from 21.4 to 12.8; neuralgia and neuritis, from 6.9 to 5.5; non-tubercular respiratory diseases, from 220.5 to 188.1; and finally, diseases of the skin, from 7.3 to 6.1. With practically no important exception the death rates for these eighteen specified and all more or less important causes, which account for 33.6 per cent of the mortality from all causes during the five-year period ending with 1910, have undergone a further reduction during 1911 and 1912.

CAUSES OF DEATH WHICH ARE ON THE INCREASE

The only important causes of death which have increased* during the five years ending with 1910, as compared with the previous five years, are briefly the following: syphilis increased from 4.1 to 5.4 per 100,000 of population; cancer and other malignant tumors, from 67.9 to 72.6; diabetes, from 11.5 to 13.7; locomotor ataxia and other

* Two important diseases which have increased, though as yet numerically of relatively small importance, considering the country as a whole, are anterior poliomyelitis and pellagra. There are few better illustrations of the thoroughly systematic manner in which public health activities are now administered than the highly specialized studies which have been made of the epidemiology of infantile paralysis. See particularly in this connection Bulletin No. 90 of the Hygienic Laboratory of the United States Public Health Service, and the Special Report on Infantile Paralysis of Massachusetts, in 1909, published by the State Board of Health. See also the results of Investigations on Epidemic Infantile Paralysis, published in English, by the State Medical Institute of Sweden, and the Reports and Papers on Epidemiologic Poliomyelitis, published by the Local Government Board, London, 1912.

Even more extended attention has been given to the subject of pellagra, the mortality of which in the registration area for 1912 amounted to 674. The disease is apparently rapidly on the increase throughout the Southern

diseases of the spinal cord, from 7.3 to 8.4; all diseases of the circulatory system combined, from 161.2 to 177.7; ulcers of the stomach, from 2.9 to 3.6; diarrhea and enteritis, under two years, from 89.0 to 96.2; diseases of the puerperal state, considered as a group, from 14.2 to 15.5; malformations, chiefly congenital, from 12.2 to 14.9; diseases of early infancy, chiefly congenital debility and premature births, from 73.9 to 75.0; suicide, from 13.9 to 16.0; accidents, from 84.9 to 86.0; and, finally, homicide, from 2.9 to 5.9. In some cases, no doubt, the changes are the result of improved medical diagnosis, and, still more, the consequence of changes in methods of death classification, but this objection is not likely to impair materially any of the foregoing general conclusions. Combining the thirteen principal diseases which have increased, the resulting total death rate was 536.9 per one hundred thousand for the first five years, against 590.3 for the last. The actual increase in this group of causes was, therefore, equivalent to 53.4 per one hundred thousand of population, or the average combined death rate from the thirteen causes during the last five years was 9.9 per cent in excess of the rate during the first five-year period under consideration. Combining the eighteen principal diseases which have decreased, the resulting total death rate was 619.6 per one hundred thousand for the first five years, against 508.1 for the last. There was, therefore, an actual decrease in this group of causes equivalent to 111.5 per one hundred thousand of population, or 18.0 per cent.

Of the diseases which have decreased, the most important are unquestionably typhoid fever, diphtheria and croup, tuberculosis of the lungs, and non-tubercular respiratory diseases. Since most of these are of the strictly preventable class, there are the strongest reasons for believing that a still further, and substantial, reduction in the death rate, at least of civilized countries, will be obtained in the near future, and that as a result of such diminution the excess of births over deaths will be increased.

PROBLEMS OF CELLULAR PATHOLOGY

Momentous questions arise out of these considerations, which cannot be adequately considered, even in part, in the remaining portion

states. A concise summary of the epidemiology of pellagra has been published, as reprint No. 120, by the United States Public Health Reports, Washington, 1913.

Another new disease is spotted or tick fever of the Rocky Mountains, which has become a problem of great interest to the physicians, zoologists and sanitarians. The report on the subject by Dr. John F. Anderson has been published as Bulletin No. 14 of the Hygienic Laboratory of the United States Public Health Service, Washington, 1903.

of this address. The economic aspects of the problem are of the first order of importance and less difficult of discussion than the more involved biological questions, which are largely beyond my own understanding. In a most interesting summary account of the nature, origin and maintenance of life, Prof. E. A. Schäfer has brought forward much apparent evidence that the dividing line between animate and inanimate matter is less sharply drawn than has hitherto been believed, and that the elements composing living substances are few in number—chiefly carbon, hydrogen, oxygen and nitrogen. He therefore concludes that it is not a hopeless anticipation that the possibility of the production of living material is not as remote as is generally assumed. These views have not been generally accepted, and among others, not by H. E. Armstrong and Sir William Tilden, who are of the opinion that Professor Schäfer's address "leaves us exactly where we were." Even if it is conceded that the problem of the origin of life is at root a chemical one, and that carbon stands alone among the elements which condition the functions of the living substance, it is an incontrovertible fact, in the words of Armstrong, that "organic growth is clearly a process of extreme complexity, one that involves the association by a variety of operations of a whole series of diverse units." Of the vast strides which have been made by all the sciences during the nineteenth century, none have been more astonishing than those in the domain of biology, foremost among the new discoveries of which is the cell structure of plants and animals, which has given rise to a new branch of knowledge known as "Cellular Pathology." It has properly been observed that a new era was entered upon with the discovery of protoplasm and the promulgation of the cell theory, as the result of refined methods in microscopical research. It has been established that the cell "is a microscopic chemical engine where the energy of the foodstuffs is finally set free and applied to the work of life." In proportion as the nature and the function of the cell become better understood, the factors of control in the duration of life become obviously greater, and assume, in fact, almost inconceivable proportions. The discovery of the functions of the hormones, or chemical agents circulating in the blood, by means of which the activities of the cells constituting our bodies are controlled, and their relations to the internal secreting glands, the uses and importance of which were not understood until within recent years, foreshadows a time when many of the now obscure diseases will also be brought under control, with a consequential further improvement in the duration of life. This conclusion applies particularly to the functions of the thyroid and parathyroid glands, the pituitary gland, which is a small structure no larger than a nut attached to the base of the

brain, and the suprarenal glands, which are adjacent to the kidneys. Human life, in the words of Schäfer, "is an *aggregate life*; and the life of the whole is the life of the individual cells." The first condition of the maintenance of the life of the aggregate is fulfilled by insuring that the life of the individual cells composing it is kept normal; the second essential condition for the maintenance of life of the cell aggregate being the co-ordination of its parts and the due regulation of their activity so that they may work together for the benefit of the whole. From this point of view the vast domain of cellular pathology assumes the greatest possible practical importance, and it is an encouraging indication of medical progress that increasing attention is being given to this subject.*

PROBLEMS OF AGE, GROWTH AND DEATH

The most important practical contribution to the problems which arise out of the foregoing considerations is the work by Charles S. Minot, on "Age, Growth and Death." Minot discusses the condition of old age, the cellular changes of age, the rate of growth, differentiation and rejuvenation, regeneration and death, the four laws of age, the longevity of animals, and a new theory of life. Some of his observations are exceedingly suggestive, particularly those on the rate of growth, which unfortunately fail in the required support of adequate statistical data for man, though, as pointed out by Minot, if statistics of the growth of man could be gathered with due precautions, "it would fill one of the gaps in our knowledge which is lamentable." The important and almost startling conclusion of Minot on the rate of growth may be briefly summed up in the statement that the period of youth is the period of most rapid decline in the rate of growth, and that

* The literature of life pathologically considered is quite extensive. Perhaps the most comprehensive review of the whole subject is the "Wonders of Life," by Ernst Haeckel, published in 1905. The address on "Life: Its Nature, Origin and Maintenance," by Prof. E. A. Schäfer, was published by Longmans, Green & Co., London, 1912. The essay on "The Origin of Life," by H. E. Armstrong, was republished in the Smithsonian Report for 1912. The biological essays on "The Mechanistic Conception of Life," by Jaques Loeb, M.D., were published by the University of Chicago Press, in 1912. The observations and conclusions of Charles Sedgwick Minot on "Modern Problems of Biology," originally delivered in the form of lectures at the University of Jena, in December, 1912, were republished by Blakiston's Son & Co., Philadelphia, 1913. The more popular aspects of the problem have been made available in the treatise by H. W. Conn, in the story of "The Living Machine," published in New York, in 1899, and "Disease and Its Causes," by W. T. Counselman, in the Home University Library of Modern Knowledge, 1913.

the period of old age is that in which the decline in the rate of growth is slowest. He emphasizes the originally enormous power of growth in the embryo and the rapid proportionate decline almost immediately after birth. He therefore argues that it is not from the study of the old, but from the study of the very young, of the young embryo and of the germ, that we are to expect an insight into the complicated questions which confront the seeker after truth in the innermost secrets of the problem of life and death.

THE PROBLEM OF OLD AGE

For immediately practical purposes, however, the study of old age will continue to attract attention and deservedly so. No one has written to better purpose on the means available for the deliberate prolongation of life than Sir Herman Weber, whose treatise includes observations on the natural duration of life, the effects of an unfavorable heredity, the value of respiratory exercise, the importance of great moderation in food, the scientific aspects of the alcoholic and neurotic affections, and, finally, the psychology of old age. In a still more recent work on the care and treatment of old age, in health and disease, Robert Saundry, M.D., thoroughly covers the entire field, and following an important introduction on the duration of life, based upon the fundamental concept that senility is not identical with old age, or that, in other words, the problem of longevity is not merely one of a quantitative increase in duration, but also one of a qualitative improvement in the physical, mental and moral faculties, he gives much practical advice which must needs prove of much service to the physician called upon to render qualified aid to the aged. Out of considerations like these naturally arise new conditions which, singly or combined, in no small measure affect a further improvement in the rate of mortality, with a consequent decline in the death rate in adult life, which as yet has been only very slight in the experience of modern countries, while at some age periods, in fact, the rate is higher now than in former years.* The solution of the problem depends largely upon the clear recognition of the important truth that the causes of old age and premature death in adult life lie probably as largely without the body as within it and that, in fact, no definite limit can safely be placed upon human longevity in the present inadequate state of our

* For an extended discussion of the close association of cancer with the degenerative periods of life and of the general subject of the nature of old age and senility, see a paper by Hastings Gilford, F.R.C.S., in the *British Medical Journal* for Dec. 27, 1913.

knowledge regarding the whole problem of life, its nature, maintenance and continuity.*

THE ASSUMED LAW OF MORTALITY

No one can forecast the future consequences of these scientifically tenable and far-reaching conclusions. The chances of death are not fixed, nor is there a true law of mortality in the sense of *natural law* as distinct from scientific law, which, in the words of Karl Pearson, is essentially a product of the human mind and has no meaning apart from man. In the sense of this definition there is a *law* of mortality which is merely a descriptive expression of as wide a range as possible of the sequences of our sense impressions, describing but not explaining the orderly manner in which human life terminates in the mass of mankind, with a due regard to age and sex. Numerous efforts have been made to establish with scientific precision the natural and mathematical laws concerning population vitality and mortality, but no effort of this kind has been successful, chiefly for the reason that so large a proportion of the causes of death among all mankind are preventable, or postponable, as the case may be. Corbaux, in 1835, made an elaborate attempt to establish the natural law, according to which what he called "the waste of human life" takes place, but he properly observed that to admit as universal "any law whatsoever of mortality under the present constitution of society would be an error." He nevertheless concluded that, "on the other hand, a very extraordinary notion, that the law of mortality had undergone a material alteration within

* In the May 29, 1914, issue of the *London Times* (weekly edition) a statement is quoted by Professor Metchnikoff with regard to the ultimate result of the campaign against preventable diseases, in which it is said that, "rid of these terrible scourges, humanity will be able to concentrate upon its intellectual development." "Mortality among civilized peoples has certainly diminished," he said. "People live longer and though the strain of life may be said to be more intense, improved communication allows them to live away from the great centers and in the purer air of the country."

With reference to Professor Metchnikoff's views on the ultimate effect of the lengthening of human life, the correspondent states that "his theories are admirably exemplified in his own power to work, which is one of the reasons why he has not given more to the world in the form of scientific exposition; he considers he can still be of use to the present generation in directing their studies. This ambition, wholly justified by the fact that his laboratory assistants continually consult him in their work, is proof of his splendid vitality. In his cosmos, as revealed in 'The Nature of Man,' the septuagenarian and those of more advanced age have still work to do. Political conditions in Russia would have improved, he thinks, if older heads had directed the reform movement. The rashness of young men has been disastrous to the country, because it has provoked reaction."

a century, seems to have gained credit with many who failed to reflect upon the immutable character of all Nature's laws, without exception." This conclusion by Corboux is absolutely contrary to the facts of human experience, for, as fully brought out by the present discussion, the rate of mortality is not only subject to a wide range of variation, but a permanent reduction in the rate may result from sanitary and other improvements which more or less condition the termination of life. Süssmilch and many other writers aside from Corboux have erroneously assumed an immutable law of mortality, but the facts of human experience for half a thousand years, at least, sustain the conclusion that the birth rate, the death rate, and human multiplication, are largely matters of human control.*

HEREDITY AND THE DEATH RATE

How far a tendency to longevity is inherited cannot be fully discussed on this occasion. It is no doubt true that "the organism and its inheritance are, *to begin with*, one and the same," but the external factors which condition longevity are of much greater importance, at least through all the early years of life, than the internal disease-resisting and possibly inherited tendencies of the organism. Unquestionably there is much in inherited individual or race traits, but there are also innumerable exceptions which have yet to be explained by scientific theories and which will continue to perplex and confuse the wisest of mankind. Only a scientific mind of a high order could even attempt to unravel the interrelations of the apparent law of human mortality, or the chances of death, to the biological phenomena of a selective death rate, and the perhaps equally important problem of

* The improvement in longevity, actuarially considered, for the nineteenth century was discussed in a number of important papers on the occasion of the Fourth International Actuarial Congress, held in New York in 1903. Of special interest are the papers on the Improved Longevity in England and Wales, by Samuel G. Warner, and the Improvement in Longevity in the United States during the Nineteenth Century, by John K. Gore. The subject was further considered on the occasion of the Seventh International Congress of Actuaries, held at Amsterdam, in 1912, including observations on the Decline in the Mortality of Assured Persons since 1800. Of special interest are the reports on the Experience of the Gotha Life Insurance Company, 1829-1895; the Experience of the Leipzig Insurance Company, 1830-1899; the Experience of the State Insurance Institutions of Denmark during the Nineteenth Century, and the Changes in the Rates of Mortality among Assured Lives during the Past Century, by Messrs. Burn and Sharman of the Prudential Assurance Company, London. Mention also requires to be made of an extremely interesting paper on a comparison between the Mortality Experience of the Equitable Life Assurance Society at the Beginning and the End of the Nineteenth Century, by Henry William Manly.

reproductive selection. The selective death rate, with regard to which as yet very little is actually known but much assumed, represents the inherited longevity, but becomes operative as a general principle only during the adult portion of life. Pearson has briefly considered this phase of the subject in his papers on "Data for the Problem of Evolution in Man," with particular reference to the principle laid down by Wallace and Weissmann, that the duration of life in an organism is fundamentally determined by natural selection. According to Pearson also, the selective death rate represents a considerable portion of the total death rate, and, in his words, "having demonstrated that the duration of life is really inherited, it has also been demonstrated that natural selection is very sensibly effective among mankind." He proves, or at least attempts to prove, for his data are hardly sufficient for entirely safe assumptions, that there is certainly a well-established correlation between the ages at death of fathers and sons, for he adds, "the heredity is not absolute, since there is a sensible divergence from the law of inheritance, in that the death rate is only in part selective." There is a vast literature on inherited diseases, much of which fails to meet the test of impartial and strictly qualified scientific criticism. Pearson himself, in his interesting address on "Social Problems: Their Treatment, Past, Present and Future," has emphasized the serious possibilities of far-reaching errors in crude methods of statistical analysis, but, speaking broadly, the liability to grave mistakes is even greater in mathematical-statistical researches, resting, as is frequently the case, upon an insufficient numerical basis of facts.*

* See in this connection a paper on "The Supposed Inferiority of First and Second Born Members of Families," and statistical fallacies inherent in discussions of this kind, by T. B. Macaulay, Montreal, Canada. The Pathology of the Order of Birth, with Special Reference to Tuberculosis, has been discussed by W. C. Rivers, briefly reviewed in the *Medical Record*, New York, for Oct. 28, 1911. The Influence of Parental Age on certain characters in offspring has been considered on the basis of statistical investigations in Middlesborough by Robert G. Ewart, M.D., briefly reviewed in the *Lancet* of Oct. 26, 1912, and a further review of the same discussion is contained in the *British Medical Journal*, in Dec. 21, 1912, issue.

For an admirable discussion of the subject of the Inheritance of Fecundity, by Dr. Raymond Pearl, see *Popular Science Monthly* for October, 1912, the paper having originally been read at the First International Eugenics Congress, London, 1912. The Comparative Fecundity of Women of Native and Foreign Parentage in the United States has been discussed in a paper contributed by Joseph A. Hill, published in the Quarterly Publication of the American Statistical Association for December, 1913. See also in this connection a monograph by Elderton, Karl Pearson, etc., on the Correlation of Fertility with Social Value, published by Dulau & Co., London, 1913, and an

CENTENARIANS

A brief reference must here be made to the subject of centenarians and the chances of extreme old age, which are apparently increasing in many civilized countries for which the data are available. It is well known that annuitants are more likely to attain to old age than persons badly provided for with the necessities of life, and it therefore follows that substantial improvements in the social and economic condition of the population must necessarily tend towards the same result. The economic importance of this question is quite considerable in view of the increasing extent to which the pecuniary needs of the aged are provided for now by state, corporate, or private pensions, best indicated in the case of England and Wales, where, in 1912, there were 642,524 old age pensioners, equivalent to 59.9 per cent of the population ages 70 and over. In the United States in 1910 the proportion of population ages 65 and over was 4.4 per cent, against 4.1 for the year 1900. The actual number of aged persons in this country in 1910 was 3,950,000. If half of these were provided for with non-contributory old-age pensions of only \$5.00 a week, the resulting cost to the nation would be now about \$520,000,000 per annum.* As an illustration of the extent to which extreme old age is at present attained in this country, the census returns may be quoted, though it is practically certain that they are probably erroneous, at least in the age returns for persons beyond the century mark. In 1910 there were 7,391 persons enumerated as of the age period 95-99, and 3,555 persons were returned as being over 100 years old. A serious question of doubt naturally arises as regards the accuracy of age returns for centenarians, since thorough research in individual cases, as a rule, fails to provide the required documentary evidence of fact. In a monograph on centenarians, by T. E. Young, published in 1899, which constitutes one of the few thoroughly scientific contribu-

extremely valuable work by Dr. Max Hirsch on the prevention of conception in its relation to the declining birth rate, published under the title "*Fruchtabtreibung und Präventivverkehr in Zusammenhang mit dem Geburtenrückgang*," Würzburg, 1914.

* I have quite fully discussed the subject of Old Age Pensions in an address on the Problem of Poverty and Pensions in Old Age, National Conference of Charities and Corrections, 1908; State Pensions and Annuities in Old Age, an address before the Massachusetts Reform Club, published in the Quarterly Publication of the American Statistical Association, March, 1909; and an address on the American Public Pension System and Civil Service Retirement Plans, Seventh International Congress of Actuaries, Amsterdam, 1912. See also in this connection the exceptionally interesting and valuable report on the Police Pension Fund of the City of New York, published by the Bureau of Municipal Research, 1914.

tions to the subject, a discussion is included of the dependence of the duration of life upon external physical conditions, which quite fully sustains the earlier conclusions of the present discussion, that the human death rate is largely the resultant of external conditions, most of which are subject to human control. Young quotes the definition of life by Bichat, the physiologist, as "the sum of the functions by which death is resisted," and all the foregoing considerations make it clear that there is apparently a gradual increase in disease resistance on the part of an increasing number of mankind, partly, no doubt, in consequence of the economic improvement in the condition of the population, providing better food, housing, medical attendance, etc.

LIFE TABLES AND THE AVERAGE AGE AT DEATH

The improvement in human longevity resulting from a decline in the death rate finds its most scientific expression in the so-called mean after-lifetime, or the expectation of life. There are no life tables for the United States as a whole, nor for any particular section thereof, for very recent years which afford the means of comparing accurately the changes which have taken place in the expectation of life during a considerable period of years.* The two Massachusetts life tables which have been constructed for the '50's and '90's, it is true, indicate a considerable degree of progress, but for reasons which need not be discussed here, they are not strictly applicable to the country as a whole. For the present purpose, therefore, the discussion is limited to the three English life tables for healthy districts, which have been constructed with extreme care for three periods of time. According to these tables the expectation of life at birth for males living in healthy districts increased from 48.56 years during the period 1849-53 to 52.87 years during 1891-1900. The corresponding improvement in the longevity of women was from 49.45 years to 55.71 years. These differences, apparently slight, are of very considerable economic importance when applied to the whole population. Stated in another form, according to the English healthy-district life tables, out of 1,000,000 males born during the period 1849-53, the number surviving to age

* A life table for the United States has been in course of preparation by the Division of Vital Statistics of the Bureau of the Census for several years, but work on the same has of late been discontinued. There would appear to be no technical reasons why at least an approximate life table for the United States should not be constructed with the same degree of accuracy as is obtained for life tables of many other countries of the world. The life tables published for certain American states and cities by the Census Office in former years are useful, but are somewhat out of date. The most recent United States life table, for the city of New York, has not been published in sufficient detail to make the same practically useful in the manner in which the corresponding life tables of London and certain other large English cities are.

sixty was 485,014, whereas, for the period 1891-1900, the number thus surviving was 551,973.

According to the vital statistics of the United States for 1910, the average age at death attained by those dying during the year was 38.7 years, which compares with an average of 35.2 years for 1900. The average age at death, of course, must not be confused with the expectation of life, which is arrived at by fundamentally different mathematical processes. In the absence of life tables for the United States, however, this rather crude indication of an improvement in American longevity is the only statistical evidence available which can be relied upon as approximately accurate. The improvement has been chiefly the result of the diminishing mortality from the acute infectious diseases of infancy, typhoid fever, malaria, and tuberculosis.* The economic value of such a reduction must be very considerable, but it is far from being the equivalent of a real improvement obtainable in consequence of a material reduction in the death rate of the adult population, by means of which the more valuable lives as representing accumulated human skill and experience would be substantially prolonged.

THE MORTALITY FROM CANCER

Foremost among the causes of death in adult life which require present consideration is cancer, or the group of malignant diseases conveniently combined under that term. Cancer is unquestionably on the increase in this and other civilized countries, and the aggregate mortality therefrom in the United States approximates 75,000 deaths per annum, and throughout the civilized world over half a million. There are the strongest possible reasons for believing that by means of improved and early diagnosis, operative technique, and surgical treatment, a material reduction in the cancer death rate can be brought about within a comparatively short period of years. This conclusion applies primarily to the external cancers, chiefly of the breast, but also to some of the internal cancers, particularly of the uterus. In proportion, of course, as these efforts, whether medical or surgical, are successful, a further decline in the death rate must follow, with even greater economic consequences than would result from a corresponding diminution of the mortality of infancy or early youth.†

* For a full discussion of the decline in the death rate from tuberculosis, see my address on the Reduction in the Tuberculosis Death Rate, ninth annual meeting of the National Association for the Study and Prevention of Tuberculosis, Washington, 1913, also my discussion of the Care of Tuberculous Wage-earners in Germany, Bulletin No. 101, U. S. Bureau of Labor, 1912.

† See in this connection my address on the Menace of Cancer, thirty-eighth annual meeting of the American Gynecological Society, Washington, 1912.

ACCIDENTS, HOMICIDES AND SUICIDES

Last, but not least, among the preventable causes of death, a brief mention requires to be made of accidents, homicides and suicides. In the United States there are approximately 80,000 deaths from accidents annually, of which about 25,000 are accidents in industry. In addition thereto there are about 15,000 suicides and over 6,000 homicides per annum, of which it is safe to say a considerable proportion could be prevented by thoroughly effective methods of moral and social reform. There is nothing more lamentable than the growing disregard for the sanctity of human life, as forcibly illustrated in the truly astonishing number of suicides and murders often for most trivial causes. The nation-wide campaign for safety and sanitation is one of the encouraging evidences of a higher humanitarianism, resulting from more rational conceptions of social and political justice, best illustrated in the comparatively rapid progress of workmen's compensation legislation, which, in course of time, is bound to include compensation for industrial diseases. The problem, however, is not fully met by compensation for injuries and diseases, but more effectively by the removal of the causes and conditions responsible for fatal accidents and injuries known to be preventable and needless. A measurable reduction in the number of accidents must necessarily affect the general death rate and contribute substantially towards a further decline than has thus far resulted from the efforts, which have in the main been limited to preventable diseases.

THE DECLINE IN THE BIRTH RATE

The interrelation of a declining death rate to a declining birth rate and population growth is so self-evident as not to require extended discussion. The evidence is quite conclusive that the birth rate of civilized countries is declining, and particularly so among the more prosperous and well-to-do elements of the population. The investigations of Karl Pearson and his associates into the problem of fertility and its relation to social worth, are but indications of more elaborate methods of inquiry, which are bound to disclose facts and conditions as yet very imperfectly understood, if at all. The astonishing evidence presented to the Royal Commission on the decline in the birth rate in New South Wales, finds its parallel in nearly every specialized study of the subject. It is encouraging to find, therefore, that the fall in the birth rate was recently discussed at a conference held at Edinburgh under the auspices of the Scottish Council of Public Morals, at which the causes for the fall in the birth rate were pointed out to be the high standard of living, the love of pleasure, the consequent shirking of parental responsibility, and the higher educa-

tion of women and their wider entrance into industrial and professional pursuits. It was therefore suggested that the subject should be made one of private rather than of government inquiry, so that the underlying facts and conditions might be ascertained with less difficulty, although the experience of the Royal Commission of New South Wales abundantly proved the perfect willingness of important witnesses to come forward with the truth. In an address of mine on the decline in the birth rate, published in the *North American Review* for May, 1909, and a brief statistical study on the maternity statistics of Rhode Island, contributed to the proceedings of the First International Eugenics Congress, I have quite fully enlarged upon the details of these phases of the present discussion, of which, however, a brief mention could not well be avoided. The birth rate of the Australian Commonwealth between 1886 and 1911 decreased from 35.4 to 27.2; of Austria from 38.3 to 31.4; of England and Wales from 32.8 to 24.4; of France from 23.9 to 18.7; of the German Empire from 37.0 to 28.6; of Hungary from 45.6 to 35.0, and of the Netherlands from 34.6 to 27.8 per 1,000 of population. There are no corresponding statistics of births for the United States, and for the few New England States for which they are available the results are hardly applicable to the country as a whole.*

POSSIBLE FUTURE POPULATION GROWTH

Passing from these biological and general considerations to the economic significance of a declining death rate, it is necessary to consider the statement made at the outset of the numerical relation of such a decline to the world's growth in population. It was shown that the annual increase is approximately 13,260,000, which is a conservative estimate and quite likely an understatement of the facts. Further advances in sanitation, the practice of medicine, safety in industry, etc., will tend to bring about a still further reduction in the death rate, equivalent to a higher general rate of natural increase than prevails at the present time. As a single concrete illustration, it may be pointed out that while for all India the natural increase in 1910 was 6.3 per 1,000 of population, the rate was as high as 11.25 in the northwest frontier provinces and 10.5 in the central provinces. It is therefore self-evident that there are vast possibilities for an augmentation in the natural rate of increase in the world's population, and there are the strongest possible reasons for believing that, largely be-

* The national and international significance of the declining birth rate has been discussed with admirable brevity by Dr. Arthur Newsholme in the new Tracts for the Times, issued by the National Council for Public Morals, London, 1911.

cause of a declining death rate, the future rate of human increase will be greater than the rates prevailing in the recent past. The economic results of such an augmentation of the world's population will unquestionably be quite serious, particularly with regard to the available food supply resulting chiefly from the employment of productive human energy upon the land.

DECLINE IN RURAL POPULATION

The present indications in this respect, however, are not alarming, for apparently the area devoted to the principal food crops is increasing even faster than the corresponding growth in population. But the data are far from satisfactory. In practically all the civilized countries the tendency of the population is largely toward the cities, and the employment of productive energy in manufacturing industries, governmental or corporated administration, the professions, and the modern methods and requirements of distribution. The recent rise in the price of agricultural products is largely to be attributed to this condition. As previously pointed out, the urban population in the United States during the last decade has increased 35 per cent, whereas the corresponding increase in the rural population was only 11 per cent. In many of the most important agricultural sections of the country there has been but a slight increase in the rural population or an actual decline. Such an actual decrease in rural population occurred, for illustration, in such typically agricultural states as New Hampshire (5.4 per cent), Vermont (4.2 per cent), Ohio (1.3 per cent), Indiana (5.1 per cent), Iowa (7.2 per cent), Missouri (3.5 per cent). In the state of New York 15 counties decreased in population during the past decade, including many in which the agricultural opportunities are distinctly encouraging; in Michigan there was a decrease in population in 26 counties; and a corresponding decline occurred in 20 counties of Wisconsin. The rural population of Michigan increased only 2.0 per cent; of Wisconsin, 5.7 per cent; and of Minnesota, 7.7 per cent. In contrast, the urban population in these three states increased 37.3 per cent in Michigan, 23.8 per cent in Wisconsin, and 38.6 per cent in Minnesota. In contrast to an apparent decline in the growth of agricultural interests there has been a decided increase in farm values, for while the improved acreage in farms increased for the United States during the last decade only 4.8 per cent, the value of farm lands increased 118 per cent, and the average value of farm land per acre increased from \$15.57 in 1900 to \$32.40 in 1910, or at the rate of 108 per cent.*

* For additional details, see "Rural Health and Welfare," published by the Prudential Insurance Company of America, 1912, in connection with the New York Agricultural Exposition.

PROBLEM OF CONSERVATION OF NATURAL RESOURCES

The corresponding increase in the cost of living during the last two decades affects practically all of the necessities, including every essential item of the food supply. It would seem that the methods of general agriculture have not made anything like the progress which has been attained in the mechanical industries, although the results in the latter are of much less immediate importance to the consumers than the former. A constantly increasing urban population must tend to bring about a further increase in the price of agricultural products, unless in the future a much larger proportion of human energy is employed in the productive industries which minister to fundamental human wants. All that is summed up in the modern conception of the governmental duty of conservation of natural resources for the needs of future generations is primarily conditioned by the indisputable indications of a larger future rate of natural increase in the world's population than has prevailed in the past. Foremost, it would seem, as a public problem, is the essential need of improved methods of agriculture, as best emphasized in the relatively low yield of agricultural products obtained in the United States, in comparison with foreign countries where the soils must long ago have been exhausted to a more considerable degree. The average yield of wheat per acre, for illustration, during the decade ending with 1912, was only 14.1 bushels for the United States, compared with 18.4 for Hungary, 19.8 for Austria, 20.4 for France, 30.1 for Germany, and 31.7 for the United Kingdom. The average yield of oats, which is a food product of considerable value, was 29.6 bushels per acre for the United States, against 29.8 for France, 30.8 for Hungary, 31.1 for Austria, 44.3 for the United Kingdom, and 51.9 for Germany. A corresponding condition is shown by the comparative statistics of the average yield of rye, which was 15.8 bushels for the United States, 18.3 for Hungary, 20.6 for Austria, 27.0 for Germany, and 28.4 for Ireland. It seems, therefore, an entirely sound conclusion that there remain vast opportunities for increased agricultural production without any necessary enlargement of the area devoted to the raising of cereal crops, but as a brief contribution to the practical side of this question, the following international crop statistics are given as derived from the Yearbook of Agriculture for 1912:

INTERNATIONAL CROP STATISTICS

The area of the world under wheat in 1908 was 242,472,000 acres, which by 1912 had increased to 265,736,000 acres. The increase in area, therefore, was equivalent to 9.6 per cent, which compares with 3.9 per cent of corresponding increase in population. The world's

wheat crop in 1895 was 2,593,000,000 bushels, which by 1912 had increased to 3,759,000,000 bushels. The increase in the wheat crop was, therefore, equivalent to 45.0 per cent, which compares with an increase of 12.6 per cent in the world's population during the intervening period of time.

The world's area under corn, in 1908, was 160,707,000 acres, which by 1912 had increased to 168,154,000 acres, or 4.6 per cent. The corresponding increase in population during the same period was 3.9 per cent. The corn crop of the world increased from 2,835,000,000 bushels in 1895 to 4,055,000,000 bushels in 1912. The increase in corn production during this period was, therefore, equivalent to 43.0 per cent, which compares with a corresponding increase of 12.6 per cent in the world's population.

The area of the world under oats in 1908 was 128,897,000 acres, which by 1912 had increased to 142,935,000 acres. The increase in area, therefore, was equivalent to 10.9 per cent, which compares with a corresponding increase of 3.9 per cent in population. The world's oat crop in 1895 was 3,008,000,000 bushels, which by 1912 had increased to 4,585,000,000, an increase equivalent to 52.4 per cent, as compared with a corresponding increase of 12.6 per cent in the world's population.

The world's area under barley, which is a food crop of no small importance, increased from 65,663,000 acres in 1908 to 67,819,000 acres in 1912, an increase equivalent to 3.3 per cent, which compares with a corresponding increase in the world's population of 3.9 per cent. The world's barley crop increased from 915,504,000 bushels in 1895 to 1,458,000,000 bushels in 1912. There was, therefore, a relative increase in barley production of 59.2 per cent, which compares with a corresponding increase of 12.6 per cent in the world's population during the intervening period of time.

The world's area under rye, which is also a crop of considerable importance as a source of food supply, increased from 106,121,000 acres in 1908 to 108,292,000 acres in 1912, an increase equivalent to 2.1 per cent, corresponding to an increase of 3.9 per cent in the population of the world during the same period of years. The world's rye crop increased from 1,468,000,000 bushels in 1895 to 1,901,000,000 bushels in 1912, an increase equivalent to 29.5 per cent, which compares with a corresponding increase in population of 12.6 per cent.

The world's rice crop increased from 91,000,000,000 pounds in 1900 to 174,000,000,000 pounds in 1911. The increase in production during this period was equivalent to 91.2 per cent, which compares

with a corresponding increase of 8.8 per cent in the population of the world.

The available evidence, therefore, is distinctly encouraging, some exceptions to this view notwithstanding, that a considerable further increase in the world's population is entirely consistent with at least an equal rate of growth in the production of the cereals required for the world's food supply. The same conclusion, though to a lesser degree, applies to the products of animal industry, which, however, it is not possible to discuss on this occasion.

EVIDENCE OF AUGMENTED POPULATION GROWTH

The progress of the race as an economic problem is, therefore, apparently not as yet seriously affected by the material decline in the general death rate, with a resulting proportionately larger increase in population. The problems of the immediate future are social, moral and political, as perhaps best emphasized in the following table, exhibiting the population growth of Europe and the United States combined, since the commencement of the nineteenth century and cast forward to the year 1960:

POPULATION OF EUROPE AND THE UNITED STATES

Year	Europe	United States	Total	Annual Increase per 1,000
1800	187,693,000	5,308,000	193,001,000	
1810	198,388,000	7,240,000	205,628,000	6.3
1820	212,768,000	9,638,000	222,406,000	7.8
1830	233,962,000	12,866,000	246,828,000	10.4
1840	250,972,000	17,069,000	268,041,000	8.2
1850	266,228,000	23,192,000	289,420,000	7.7
1860	282,893,000	31,443,000	314,336,000	8.3
1870	305,399,000	38,558,000	343,957,000	9.0
1880	331,745,000	50,189,000	381,934,000	10.5
1890	362,902,000	62,980,000	425,882,000	10.9
1900	400,577,000	76,303,000	476,880,000	11.3
1910	449,520,000	91,972,000	541,492,000	12.7
1920*	506,151,000	109,999,000	616,150,000	13.0
1930*	571,081,000	130,019,000	701,100,000	13.0
1940*	645,901,000	151,862,000	797,763,000	13.0
1950*	732,506,000	175,248,000	907,754,000	13.0
1960*	833,127,000	199,783,000	1,032,910,000	13.0

* Based on an annual increase of 13.0 per 1,000, and the assumption that in the future a larger share of European emigration will go to countries other than the United States.

During the period of recorded population growth for Europe and the United States there has been a rise in the rate of natural increase from 6.3 per 1,000 during the decade 1800-10 to 12.7 per 1,000 during the decade ending with 1910; and the actual population of Europe and the United States combined has, during this period, increased from not quite 200,000,000 to over 540,000,000.

POLITICAL PROBLEMS OF POPULATION GROWTH

Foremost among the political problems resulting from such an increase in population, with a corresponding increase in density, are the increasing expenditures on account of government, best illustrated in

the simple statement of the fact that in 1912 the approximate revenue of civilized countries was \$11,574,000,000, and the corresponding expenditures, \$11,687,000,000. Of the expenditures, \$1,686,000,000 was on account of interest and other annual charges upon an accumulated debt of \$41,737,000,000. In practically every civilized country these burdens of fixed charges on account of debts, largely of a non-productive character, are increasing; but particularly so in the case of local governments, chiefly large cities, which are not included in the foregoing statement of revenue, expenditures, debts and interest charges, which have reference only to national obligations and fiduciary responsibilities. As a single concrete illustration, limited to American cities, it may be pointed out that the per capita governmental cost payments for 1910 amounted to \$31.32, ranging from \$37.15 for large cities to \$19.66 for small cities. The increase in municipal indebtedness during recent years has been enormous, with much of the expenditures for non-productive or only temporary purposes, though the burdens resulting therefrom will have to be largely borne by future generations. Against a per capita national debt of only \$10.60 for the United States and an annual per capita interest charge of 23 cents, the per capita debt of New Zealand is \$371.27, and the per capita annual interest charge \$11.26; for France, the per capita debt is \$158.67, and the per capita annual interest charge \$4.69; for the German Empire the respective figures are \$18.78 and 88 cents. All statistics of this kind require to be accepted with great caution on account of variations in underlying elements, since no data are available regarding the total governmental debts of any country, including the federal, state and local governments. The data are only referred to as an illustration of the serious problems confronting the future, and which arise particularly out of the rapid actual growth in population, which in modern countries is without a parallel in historic times.*

FIRST CONCLUSION—CONSERVATION OF FOOD-PRODUCING NATURAL RESOURCES IN LAND AND SEA

As observed at the outset of this discussion, the social, economic and political problems which arise out of a declining death rate and the

* The most convenient sources of information regarding international statistics of public finance are contained in the statistical abstract of the United States, published annually by the Bureau of Statistics, of the Treasury Department. The financial statistics of American cities are annually reported upon in considerable detail by the United States Census Office. The most recent critical observations on the wealth of nations are contained in a treatise on "Wealth and the Causes of Economic Welfare," by Edwin Cannan, published by P. S. King & Sons, London.

resulting population growth, are of vast importance and entitled to public consideration. Much has of necessity been left unsaid which has immediate reference to the factors conditioning race progress as measured by changes in the death rate, but the most pressing question is the more intelligent, and if necessary the radical, conservation and control of the natural resources of the earth, including the food resources of the sea. On the last-named subject alone a well-reasoned plea might have been advanced, for it is a remarkable fact, as pointed out in the report of the Canadian Commission on Conservation, that Canada is the only country in the world with a governmental organization with administrative powers over all the fisheries of the Dominion. The Canadian Department of Marine and Fisheries has ample powers of protection and conservation, which in course of time must prove of vast benefit to the future generations of that country. Such power should be exercised by other governments with an interest in the food resources of the sea.*

SECOND CONCLUSION—IMPROVED METHODS OF AGRICULTURE

The second conclusion, partly resulting from the first, is the imperative need of improved methods of agricultural production and distribution and the more successful prevention of waste of soil, seed and labor. The extent of destructive soil-erosion is enormous and the annual waste of soil or impaired fertility in the United States is one of the most lamentable aspects of our national life. Large areas are becoming practically useless for remunerative methods of farming, because of neglect and lack of proper attention to well-understood principles of soil-conservation. The progress in the reclamation of arid and swamp lands is gratifying, but considering the vast possibilities, only a small beginning has been made. The work of the United States Bureau of Soils and the United States Reclamation Service is proving of incalculable benefit to the people and it is entitled to more adequate and well-considered state and federal support. The nation-wide movement for the improvement of the social conditions of country life and, in connection therewith, of rural sanitation, demands a properly guided and persistent public interest. One of the most hopeful signs of the times is the gradual development of a deliberate governmental policy in the matter of rural credit, or agricultural finance, and the

* See in this connection the admirable reports of the Scottish Departmental Committee on the North Sea Fishing Industry, published as a Parliamentary Paper, London, 1914. No such exhaustive investigations have been made of the fishery resources of the United States, though obviously called for on account of the growing importance of this industry.

related subject of intelligent cooperative distribution of farm products. All efforts of this kind foreshadow a time when agriculture will become the first interest of the nation, not only as regards remunerative pecuniary results, but also as regards health and happiness on the farm.*

THIRD CONCLUSION—UTILIZATION OF WASTE

Third: The utilization of wastes and by-products is an economic question of far-reaching practical national importance. The losses resulting from crude or otherwise ill-considered methods of production are enormous, but particularly so in the lumber and mining industries. What can be done in the direction of conserving our forestry resources has been clearly established by numerous investigations of the Bureau of Forestry. What can be done in the direction of conserving our fuel resources, by more efficient methods of production, is best illustrated in a recent bulletin of the United States Bureau of Mines on the petroleum industry. The almost infinite possibilities of utilizing waste products to economic advantage are best illustrated in the commercial success of the cotton-seed-oil industry, modern meat-packing plants and by-product coke-ovens. Improved efforts in this direction will go far to mitigate the economic consequences of an increasing population, resulting from a reduction in the death rate.

FOURTH CONCLUSION—TOWN PLANNING

Fourth: There is the utmost urgency for the earliest possible adoption of rational town-planning schemes for American cities, in conformity to the principles laid down in the Proceedings of the Third National Conference on City Planning, held in Philadelphia in 1911. The fundamental facts of a housing-reform propaganda are gradually being ascertained by means of local surveys and given wide

* See in this connection the exceptionally valuable and interesting report of the United States Commission on Agricultural Cooperation and Rural Credit in Europe, Washington, 1913; the Joint Hearings before the Subcommittee of the Committee on Banking and Currency of the Senate and the House of Representatives charged with the Investigation of Rural Credits, Washington, 1914; the Report to the Board of Agriculture and Fisheries of an Inquiry into Agricultural Credit and Agricultural Cooperation in Germany, by J. R. Cahill, published as Parliamentary Paper Cd. 6626, London, 1913; also, Bulletin No. 56, Department of Agriculture, State of New York, on Agricultural Cooperation in Europe (this report contains some exceptionally useful facts and observations on the business organization of agriculture in Europe, and the commercialization and industrialization of agriculture for the purpose of securing higher returns to the producer and reduction of cost to the consumer).

publicity by the National Conference on Housing.* There is a strong tendency, at least in the development of suburban territory, towards the adoption of European town-planning methods, as admirably set forth in recent reports of the London Garden Cities and Town-Planning Association and the Westphalian League for Housing and Building Reform. The American aspects of the problem have been discussed with admirable clearness and an unusual breadth of vision at a meeting of the American Academy of Political and Social Science, held in Philadelphia in 1914. This conference included observations on the important question of the relation between transit and housing and of the equally important problem of properly considered plans for the most suitable location and most effective distribution of industrial establishments. In view of a rapidly increasing urban population throughout the world, the most effective and suitable control of building operations, particularly in badly congested cities, and with special reference to the housing of wage-earners, assumes the greatest possible practical importance.

FIFTH CONCLUSION—EDUCATION IN PRACTICAL DOMESTIC ECONOMY

Fifth: There is greater need of emphasis being placed in educational courses on the principles and practices of domestic economy and the required reduction of per capita food consumption, with a larger proportionate and easily obtainable increase in nutritive values, conforming to the results of qualified studies of dietaries, such as have been made by Atwater, Chittenden, and others. It is gratifying evidence of an increasing extent of public interest in this extremely important problem that more or less drastic national food laws, aiming chiefly at the prevention of adulterations, should have been enacted within recent years, with the certainty of far-reaching benefits to the health of the nation. The physiology and pathology of metabolism

*The direct relation of model dwellings to the death rate has been precisely established by English experience. The following table shows the general death rate of groups of model dwellings in London, compared with the death rate of the city as a whole. For additional information on this important question, see my report on the sanitary condition of Trinity Tenements, published in 1895, and my address on the relation of the suburb to the city, published in the Proceedings of the Federation of Churches, New York, 1912.

Years	The Improved Industrial Dwelling Co., Ltd.	The Guinness Trust	Metropolitan Asso- ciation for Im- proving the Dwell- ings of the In- dustrial Classes	Peabody Donation Fund	Greater London
1908.....	8.0	13.3	9.0	12.4	13.6
1909.....	8.6	14.7	11.5	13.7	13.8
1910.....	6.3	13.8	6.6	10.8	12.4
1911.....	10.8	13.4	10.2	11.3	13.8
1912.....	9.4	11.3	12.6	10.4	12.3

are as yet but imperfectly understood, and further progress in this direction is bound to have a decided effect upon the death rate. What can be done in educating the general public in the elements of nutrition is best shown by an admirable set of fourteen charts on the composition, functions and uses of food, prepared by C. F. Langworthy, expert in charge of nutrition investigations of the United States Department of Agriculture.

SIXTH CONCLUSION—RATIONAL CONTROL OF MARRIAGE, FECUNDITY,
AND DIVORCE

Sixth: The increasing complexity of social and sex relations, resulting partly from the vast migratory movements of modern peoples, suggests the necessity of more qualified studies than have heretofore been made of the actual extent of such changes and their effect upon the stability of the family and its intrinsic social worth. State regulation of marriage within reasonable limitations and with special reference to the required prevention of the marriage of the obviously unfit is a first step in the direction of deliberate race-betterment on the basic principle of social control. The actual and relative increase in divorce indicate a large amount of prevailing marital discontent, as well as the possible necessity of more effective legal safeguards against the dissolution of the family. The economic problem of widowhood increases in seriousness with an increase in the duration of life and the consequent necessity for more prolonged pecuniary support in old age. The present status of family-desertion and non-support laws is far from satisfactory, largely because of a rapid augmentation of urban population, chiefly by migration from the south of Europe. In its fundamentals the progress of the race is determined by the progress of the family and its greater stability and intrinsic moral worth.*

SEVENTH CONCLUSION—IMPROVED METHODS OF GENERAL EDUCATION

Seventh: Our methods of general education are unquestionably far from being as practical as they require to be made in view of an increasing complexity of social, economic and political problems, which necessitates the elimination of all evidently useless courses imparting mere information or rules and formulas never likely to be applied in the solution of practical, every-day problems.

* For a discussion of the rates of mortality, with special reference to marriage and fruitfulness of marriage, see the Transactions of the Faculty of Actuaries for 1912; the classical treatise on Fecundity, Fertility and Sterility by J. Mathews Duncan, New York, 1871; my address on the Maternity Statistics of Rhode Island, First International Congress of Eugenics, London, 1912; and the work by Chas. Lefourneau on the Evolution of Marriage of the Family.

EIGHTH CONCLUSION—PHYSICAL TRAINING AND MEDICAL SUPERVISION

Eighth: The physical training of the young, and the medical supervision of schools and factories, including periodical examination for the purpose of correcting physical defects in the initial stage, or treating incipient disease, with a reasonable chance of cure, have become accepted principles of modern government. In course of time these efforts must profoundly modify not only the health of the young, but what is equally important, the health of adult persons employed in industry. Furthermore, there must come about in consequence of such efforts, a decided improvement in physique and more general conformity to a normal physical type, and the gradual elimination of the, at present, disproportionately large number of persons physically defective or infirm, and by inference, or obviously, less efficient for the economic needs of society.

NINTH CONCLUSION—LOCAL HEALTH ADMINISTRATION

Ninth: A decided improvement is required in local health administration and the more intelligent coordination of health-promoting public and private agencies and institutions. There is a considerable amount of needless waste in present efforts, but even more important is the abundant evidence of inefficiency, particularly in the health administration of small communities and rural districts. With an increasing appreciation of the economic value of health must come a higher regard for the scientific and practical utility of accurate vital statistics on the one hand, and a thoroughly efficient administrative control of the public health on the other. Every improvement in this direction tends towards a lowering of the general death rate, at least from the more easily preventable diseases, and in course of time a reduction may also be anticipated in the chronic degenerative diseases less subject to public control but more amenable to a rational mode of living, personal hygiene, progress in medical and surgical diagnosis and treatment, and a higher standard of life generally.

TENTH CONCLUSION—MODERN LIFE CONCEIVED AS SOCIAL SERVICE

Tenth: Coincident with a more rational education must come the inculcation of new and higher ideals of life conceived as social service, and therefore primarily for the benefit of the community as a whole. The purely individualistic view of personal aims and pleasures is bound to give way to higher conceptions of social duty, without in the least diminishing the chances for individual development, conceived as an economic function, or as a life-long struggle for intellectual, moral and spiritual perfection.

ELEVENTH CONCLUSION—ECONOMIC UTILITY OF LONGEVITY

Eleventh: An increasing average duration of life, on the one hand, and a larger proportion of aged persons on the other, must mean new economic problems, particularly with regard to the social and intellectual utilization of old age. It has beautifully been observed by Jean Finot that "our life is nothing but a long and implacable battle with death." But life is also for the mass of mankind an incessant struggle against poverty and economic dependence and the more or less degrading and always humiliating necessity of private charitable aid or state support in sickness, invalidity and old age. No modern agency for the amelioration of the economic condition of mankind has been of greater benefit to the masses than life insurance in its various forms. To an increasing extent, the needs of even the poor in sickness and premature death are now being provided for on the basis of insurance principles, gradually developed into the ministry of a universal provident institution. For a tranquil and otherwise happy old age, a modest but certain amount of financial support is absolutely essential, but it is equally important on the ground of public mortality that such support, to the largest possible extent, should be the result of individual thrift, or, in other words, represent voluntary methods, the reward of a rational economy, enhanced in value by the use of sound and profitable methods of savings and insurance. It is on this ground that non-contributory universal old-age pensions are to be looked upon with apprehension and as a hindrance, rather than a help, in the struggle for a genuine and lasting betterment in the social condition of the poor. It is for the same reason that voluntary methods of savings and insurance afford the most satisfactory means within the reach of all but the very poor, to provide in however modest a manner for self-support in sickness, infirmity and old age.

The suitable occupation of persons advanced in years in some capacity useful to themselves and society, is another serious social problem, which as yet has received but slight consideration. The most helpful suggestions along this line are those advanced by the late Professor Shaler, in his book on "The Individual;" by William Edward Hartpole Locky, in "The May of Life;" and by Professor Metchnikoff's books on "The Prolongation of Life" and "The Nature of Man." That old age has its own and properly assigned function in the human economy, as applied to the needs of society, is best brought out in the admirable discourse on "The Age of Mental Virility," which is an inquiry into the records of achievement of the world's chief workers and thinkers, by W. A. Newman Dorland.

TWELFTH CONCLUSION—HIGHER EDUCATIONAL IDEALS

Twelfth: And last, it may be suggested that one of the most important problems resulting from a declining death rate and the prolongation of life and its consequential relation to the progress of the race, is the imperative duty of self-culture, the adoption of new educational standards, emphasizing, on the one hand, the economic limitations of life, but on the other, the practically unlimited possibilities of individual, intellectual, moral and spiritual development. There is nothing more discouraging to the mass of mankind than the obvious evidences of inherent economic limitations as regards the distribution of wealth and the individual acquisition of articles of necessity or luxury which only money can buy. There is the most urgent need for higher standards of education, resting upon the incontrovertible argument by Bishop Spalding, in his masterly treatise on "Education and the Higher Life," that the true ideal is summed up in the aim to *be* rather than to have more; and to *be* more spiritually, morally and intellectually is practically within the power of every individual whose eyes have once been opened to the truth. It is true that the standard of economic well-being has risen all over the world, and unquestionably an inconceivable amount of good has resulted from the comparatively recent economic progress of mankind; but there is great danger in overemphasizing the value of such progress, at least in the individual case, and in underrating the social value of a disciplined imagination and the more readily attainable ideals of the intellectual life. With an increasing population and an increasing struggle for the possession of the land and the means of subsistence, it would seem to be of the utmost importance that these more subtle and less readily definable elements of the problem of race progress should not be lost sight of. If the prolongation of life resulting from a diminishing death rate is to be really worth while, the present disharmonies of human existence must be, as far as practicable, eliminated, but whatever changes for good may result from improved methods of production, from more abundant means of subsistence, from increased earnings and shorter hours of labor, they will all be of small consequence unless balanced by an even greater advance in the moral, intellectual and spiritual type of the generation which is yet to be.

THE CAUSES OF THE DECLINING BIRTH RATE

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From prehistoric times the population of the world has been held in check by war, pestilence and famine. Towards the close of the eighteenth century these were relaxing in severity, thanks to the applications of science and to a gradually ameliorating civilization, and the population of Europe was increasing at the rate of about one per cent a year. It is no wonder that Malthus was appalled by this geometrical compounding of human beings, which would exhaust the food supply and even leave no standing room on the earth, and that his point of view dominated the economic theory of the nineteenth century. But two factors already in existence soon gained force. The applications of science—the use of the steam engine in manufactures and transportation and innumerable other advances—increased the means of subsistence more rapidly than one per cent a year, and the birth rate was beginning to decline.

Owing to a remarkable balance between a decreasing birth rate and a decreasing death rate, the population of Europe continued to increase throughout the nineteenth century at a rate in the neighborhood of one per cent a year, rising from 175 million in 1800 to 420 million in 1900. The population increased about as rapidly as it could be conveniently assimilated, with gradually improved conditions of living for all. A new factor in the adjustment of population was emigration on a large scale, some thirty-five million people leaving Europe in the course of the century, more than half of whom came to the United States, where the increase in population has been in the neighborhood of two per cent a year.

The adjustment of population to means of subsistence appears at first sight to be so exact that there is likely to be an assumption of a controlling mechanism such as exists in a state of nature. The fact of the matter is, however, that the food supply and the other necessities of life are not fixed quantities, but increase in proportion to the number of men who both use and produce them. In an era of the applications of science, there are no diminishing returns with increasing population, but rather increasing returns, owing to the production of larger numbers of men who make discoveries and improvements for the benefit of all. The average well-being is about the same in France with a stationary population, as in Germany with a rapidly increasing population; but Germany through its greater share in the advancements of science and its applications is contributing more to the world than is France. The first effect of a lowered birth rate is to

increase wealth—though it is generally consumed in luxuries—by saving the cost of the rearing of children, but later when the productive workers are lacking there is an economic loss. France, as compared with Germany, saves each year over a billion dollars by having fewer children to support; but the gain in wealth is temporary. In fact it ended in 1895, whereas the increase in wealth in Germany in the course of the next generation will be enormous.

It is a fundamental question whether the relation between the birth rate and the death rate will be maintained under existing conditions so as to give an increasing, or, at all events, a stationary population. Will both continue to decrease or remain approximately as at present, or will the balance of the nineteenth be lost as has apparently happened in France? The death rate has been halved by the partial abolition of war, pestilence and famine in their grosser forms, and by alleviation of their milder aspects—improved conditions for the struggling classes, the limitation and mitigation of disease, and better conditions of living. There is abundant room for further improvement; it is stated that the death rate can again be halved. But this is impossible; indeed, it seems that in certain nations the death rate has now reached its minimum. Australia and New Zealand report a death rate of ten. This means that in a stationary population the average age at death is one hundred years. For every infant that dies, a man must live to be two hundred years old, or ten men live to be one hundred ten. This is beyond the limit of possibility. The death rate in England and Wales is about thirteen. It is so low because decreasing birth rates and death rates have given a population so constituted that an unusually large part is of the age when deaths are few. The death rate in England will probably decrease a little further and will then begin to rise.

The relation between births, deaths and marriages in England and Wales is shown on Chart I. The marriage rate fluctuates, but is now as high as it was in 1880.

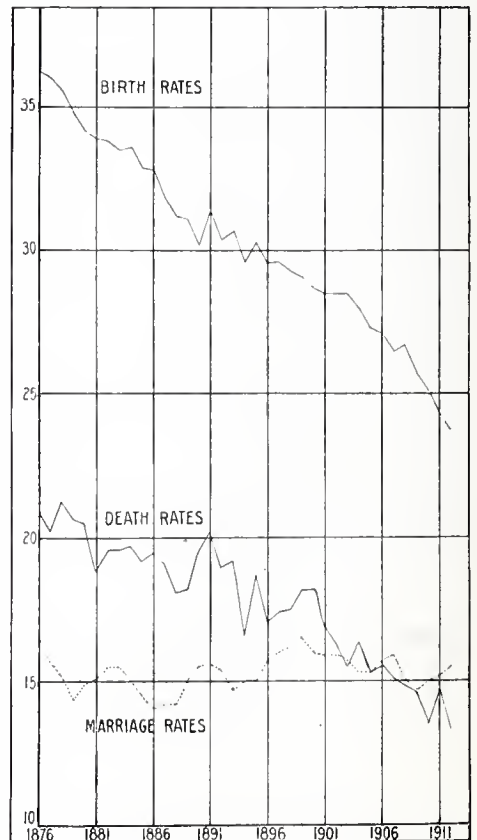


CHART I.

The maximum birth rate in 1876 may be due to the introduction of compulsory registration in 1874. From that time it has fallen steadily; if it should continue to decline at the same rate it would reach the minimum death rate of ten in about forty years. The death rate has also fallen constantly, though with greater fluctuations, dropping from 21 in 1876 to 13.3 at the present time. In France, with its small birth rate and stationary population there are relatively about four-fifths as many young children and nearly twice as many old people as in England. When the latter country attains a stationary population its death rate must increase, and unless there is a change in the birth rate curve the population will soon become stationary and will then begin to decrease.

The declining birth rates of the three great cultural nations of

Western Europe are shown on the curves (Chart II), and they have continued in the same course. Thus in England and Wales the rate was 24.4 in 1911 and 23.8 in 1912. The decline for France has been very regular since the beginning of the last century at the rate of one and one-half per thousand for each decade. The decline for England since 1876 is also nearly in a straight line and twice as rapid as for France. The decline for Germany, beginning

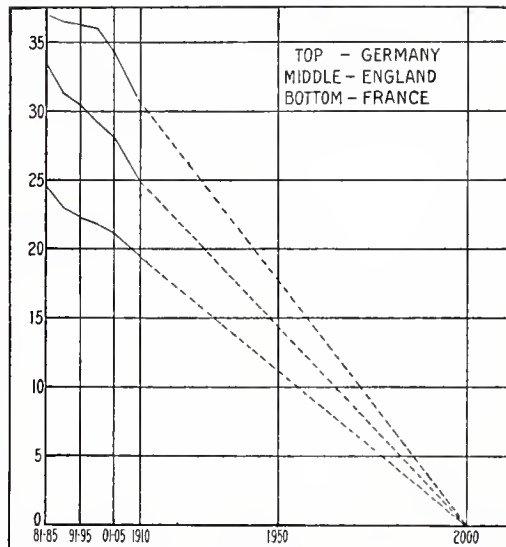


CHART II.

later than for England, as that was later than for France, has since 1895 been more rapid than for England. These three curves, if continued, give the queer result that births in these three nations will cease altogether in about the same time one hundred years hence. Such results are of course absurd. Still it should be remembered that there are now only three births to replace four deaths in some French departments and in the native population of New England.

The vital statistics of the United States are entirely inadequate. Where registrations of deaths and births exist, they are imperfect, and the changing population, its age, composition, and the amount of immigration, render them difficult to interpret. But some information concerning birth rates is given by the proportion of children as determined by the census. If the percentage of children under sixteen years of age in the population should continue to decrease as it did

from 1880 to 1900, there would be no children two hundred years hence.

From a special study by Mr. Kuczynski it appears that the birth rate of the native population of Massachusetts was 63 per thousand women of child-bearing age, as compared with 85 in France, 104 in England and 143 in Russia. As the French population is stationary, the native New England population, even apart from any further decline in the birth rate, decreases to three-fourths in one generation. Its birth rate was 17, the size of family 2.61 and of the surviving family 1.92. Special statistics have been gathered for college graduates. President Eliot in his report for 1901-02 stated that 634 married Harvard graduates of the classes from '72 to '77 had an average family of 1.99 surviving children. Other data concerning the families of college graduates have been published by Professor Thorndike, President Hall and others. The Harvard graduate has on the average three-fourths of a son, the Vassar graduate one-half of a daughter. Curves are here drawn for some of the data, which show

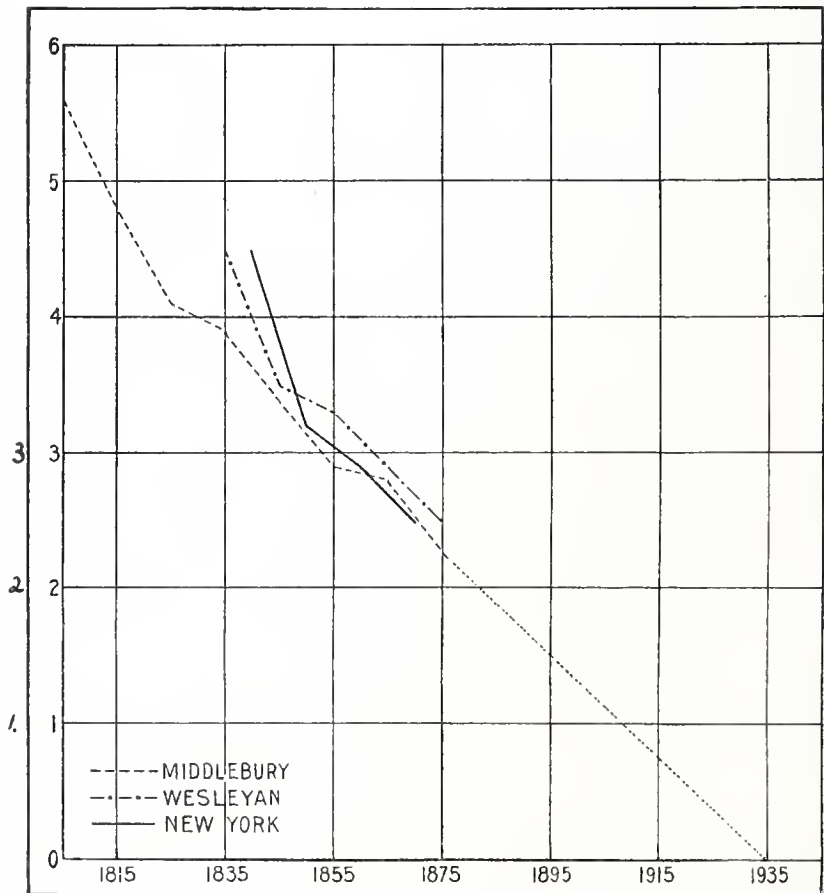


CHART III.

that the gross size of the family of college graduates has decreased from 5.6 at the beginning of the century to 2.5 and 2 for classes graduating in 1875. A projection of these curves gives the curious result that students graduating in 1935 would have no children.

What, then, are the causes leading to the recent decline of the birth rate, and are they likely to alter so that the rate may again increase, to maintain the existing state of affairs, or to produce a further decrease? There is a biological adaptation which limits the fertility of a woman to about twelve children; and social conditions have led to one-half of the women of child-bearing age being unmarried. The further decrease of the average family to three or four—in the case of American scientific men or college graduates to two—must be due to infertility or to voluntary limitation. Both causes have been recognized since the time of the writing of the book of Genesis;* both have

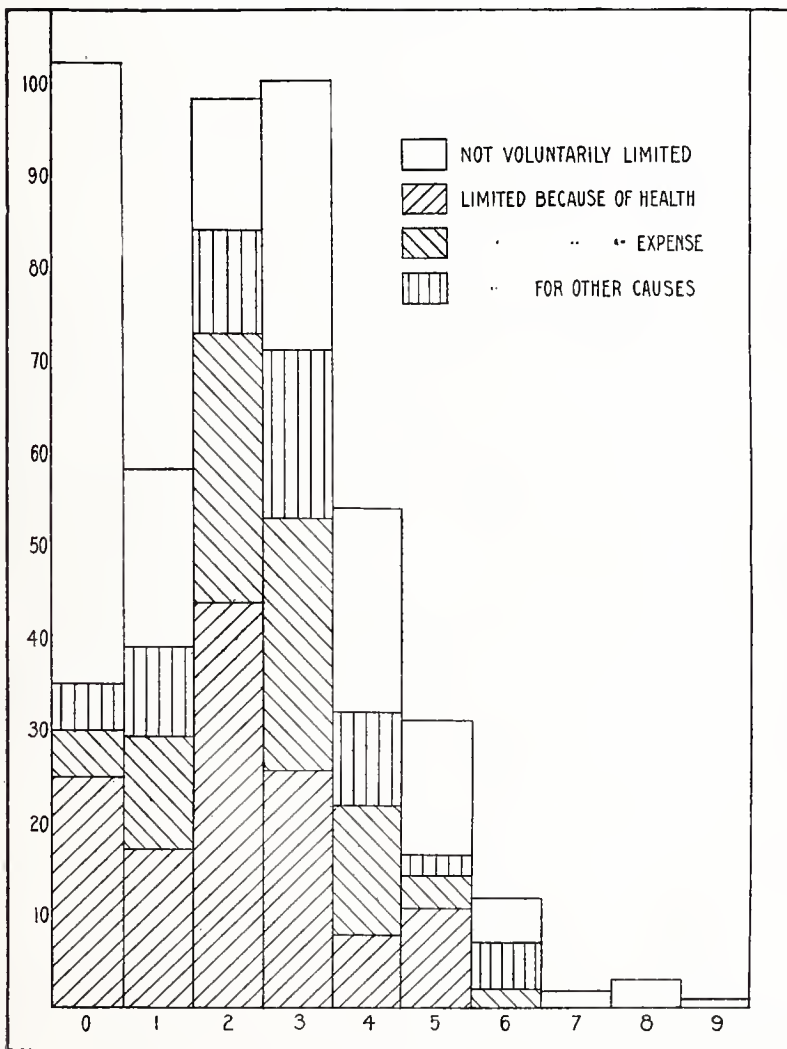


CHART IV.

doubtless increased in force in the course of the nineteenth century. It is generally believed that the principal cause of the small size of the modern family is voluntary limitation. A definite answer is supplied by information given to me by 461 leading scientific men.

The curves of Chart V show the distribution of these families

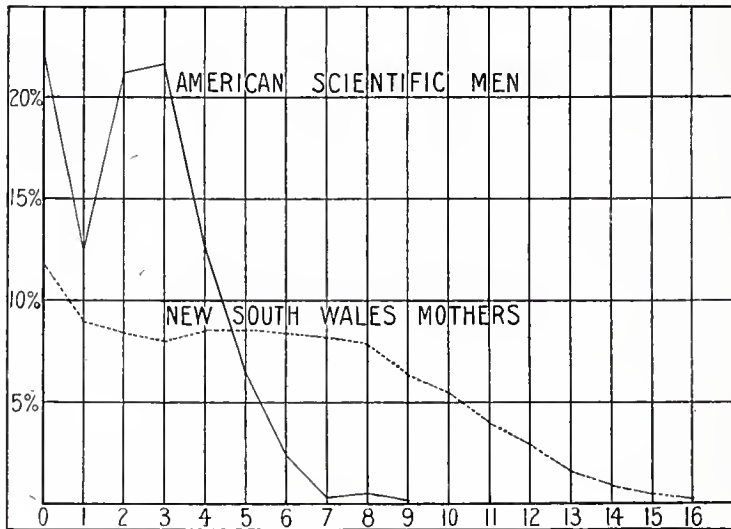


CHART V.

of scientific men in comparison with the families of some twenty thousand New South Wales mothers who died toward the close of the last century. In both cases all children, whether they survived or not, are included and no more children would be born. The New South Wales families of from one to eight are nearly equally numerous and there is then a gradual decrease to families of sixteen and larger. The families of American scientific men—which may be regarded as typical of the professional classes and other college graduates—show a remarkable contrast. Nearly one-fourth are childless; less than one in four is larger than three, only one in seventy-five is larger than seven, none is larger than nine. The average size of family is 2.2. Excluding the earlier marriages, it is 2; the surviving family is about 1.8 and the number of surviving children for each scientific man is about 1.6.

THE NEED OF THOROUGH BIRTH REGISTRATION FOR RACE BETTERMENT

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The main purpose of my coming here as representing the Bureau of the Census, Department of Commerce, was to see that the subject of vital statistics was one of the fundamental planks of this new organization, and since coming here, since looking over the program, the dia-

grams and other things over in the Annex and hearing the remarks of Mr. Hoffman, I am sure that there will be no difficulty about the main proposition—that is to say, the necessity, the absolute importance of vital statistics, especially birth registration, as the foundation of all intelligent effort for race betterment.

You will find in the corridor of the other building a little diagram entitled, “The United States Registration Area for Deaths.” It is a map of the states showing the space in which the registration of deaths is sufficiently complete to be used for statistical purposes, with this inscription below it: “Vital statistics are the bookkeeping of health and we cannot economize health any more successfully than we can economize money unless we keep books.—*Irving Fisher.*”

That is so absolutely true, it is not worth while to argue about it. Yet, look at the condition in this country in regard to our bookkeeping of public health. For a large proportion of the country, the registration of deaths is so worthless that we cannot have any reliable statistics in regard to it. Even the great state of Illinois, the state of Iowa, the state of West Virginia and practically all the Southern States have not any successful death registration. The registration of vital statistics in the United States began in 1880 when we had only two states, Massachusetts and New Jersey. In 1890 the area had grown so that it took in all New England, New York, New Jersey, and Delaware was added by mistake in 1900. You see some of the Middle West added Michigan and Indiana, and I am very proud as a native Michigander to be able to say that Michigan was the first state, west of New York, that had an effective law for registration of deaths and the first state to be accepted by the Bureau of Census, before my time there, as belonging to the registration area for deaths. Michigan was added for the census in the year 1900, whereas Indiana, which followed, was not added until half a year later. Since 1900 we have been making a good deal of progress. A large number of states are now added, some of them in the Far West. We are now beginning in the South. Missouri was added in 1911; Kentucky in 1911; Virginia added in 1913, together with the partial registration in North Carolina. A law establishing registration went into effect this month in Arkansas and Tennessee. A law has been in operation in Mississippi since November, 1912. The whole South is awakening to the importance of death registration, so that I can predict that perhaps by the year 1920, all the states of the Union will be covered with adequate death registration laws—although some of them will not be properly enforced, but enforcement must follow the passage of proper legislation.

When we turn to the condition of birth registration, we have rather

a different picture. The only states in 1911 in which statistics of birth were practically complete were Rhode Island, Massachusetts and Connecticut.

We have a test in birth registration that can be applied to the operation of the state law. As you know, every ten years we have an enumeration of the population. In that enumeration, the proportion of infants under one year of age is always given. Now the number of infants under one year of age as enumerated in the population is always considerably less than the number of births. By comparison of international statistics of leading European countries, it will be found that the number of births will usually exceed the number of infants under one year of age, as enumerated by the census, by perhaps ten or fifteen per cent, or even more. Now, applying the comparison to 1910 or 1911, we find that the only states in which the registration of births gives results greater than the enumeration of infants under one year of age in population are Connecticut, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Rhode Island and Vermont. The remainder are confined to New England, New York, Pennsylvania, Michigan, Indiana, Missouri and Utah. In Kentucky the first registration law went into effect in 1911. It is not fair, therefore, to compare the results in Kentucky, for the first year of operation of the law, with states in which the law has been in operation for some time. It would be better to compare the results in Kentucky for the next year of operation, 1912, in which the number of births slightly exceeded the number of deaths under one year of age, very much like Indiana, Missouri and Michigan.

The results in Michigan are of special interest because there is beginning to be some improvement. Michigan had no vital statistics at all, so far as complete figures are concerned, until 1908, when the new death registration law went into effect. The death registration law was not passed until 1905 and went into operation in 1906. In 1910, five years after that, the number of births registered only very slightly exceed the number of infants under one year of age in population—I think about one per cent. Since that time, in 1911-12 and I suppose in 1913, there has been some improvement, so that Michigan now shows a death registration about four per cent in excess of infants under one year of age. But I do not believe birth registration will ever be approximately accurate until it exceeds at least by ten or fifteen per cent the number of infants under one year as in Massachusetts, Connecticut and Rhode Island. So there is yet much to do in Michigan to bring up the registration of births so that they will be of real statistical value, not only for purposes of race betterment, but for the special application to the study of infant mortality. In fact, even

in our best states, calculating their registration exclusive of the great metropolitan cities of five hundred thousand population and over,—even in Massachusetts, which has the highest percentage of births to infants under one year of age—the city authorities do not claim that the registration is even as fairly complete as that of the ordinary European country.

I say, therefore, that the time must surely come—and I hope it may be the function of this organization to bring about that time more rapidly—when we shall have fully dependable, fully reliable, statistics of births for use in connection with the subject of race betterment. The time and place to begin this is right now and here, in Michigan. I presume the majority of this audience is composed of Michigan people, who can lend effective aid in bringing about this result. It is only necessary to see that the first law is enforced. Michigan has the best law for this purpose of any state in the Union, because it places the full responsibility, the undivided responsibility for uniform state enforcement upon one man, the Secretary of state. He has the means for obtaining information in regard to the failure to register births. Every physician and every midwife in Michigan who registers births is paid fifty cents. It is a large sum compared to the amount paid in some states. In some states it is not thought necessary to give any compensation for this purpose. There can be no reasonable excuse, therefore, for failing to enforce the law in cases of delinquency every time a physician or midwife fails to register a birth. If the public sentiment of the state is aroused to this purpose, so that the state registration authorities and the local legislation authorities will be obliged to do this, we may then have, for the first time in the history of the United States, a state where the registration records of births are reliable for the important purposes for which they should be used.

In Kentucky, for the second year of registration, the second year of the operation of the law, the rates in a general way are graded from the lowest. Certain counties have birth rates below twenty. Along the Ohio River, up in the mountains, and in the extreme southwestern portion of the state, the registration is imperfect. Remember this is the second year of the operation of the law. Then we have quite a number of counties showing the next higher rate, twenty to twenty-five. We can comprehend the significance of this when we consider that twenty-five is about the birth rate of England, the lowest they have recorded in the history of that country and a very low rate. Of course, below twenty is absurd for any county. The counties having the rates twenty-five to thirty-five are usually accepted as approximately representative of conditions. The point that is of special interest is the great uniformity of registration in the state after the second year of

operation. Nearly all of the mountain counties undoubtedly have very high actual birth rates, and the birth rates recorded are all in excess of thirty-five. The great bulk of counties range between twenty-five and thirty-five. You may be able to find some interest in a comparison with Michigan. For the county birth rates of Michigan in 1912 the real population of which compares exactly with the population of Kentucky, for practically all of the southern part of the state of Michigan, the rates are under twenty. Other counties are twenty to twenty-five, others from twenty-five to thirty-five, and others from thirty to thirty-five. Then the only two counties having rates of thirty-five and over are Keweenaw and Gogebic. Now this is of interest. If these rates be correct, we certainly have a great problem before us in the low birth rates in the rest of the state. But I don't believe the Secretary of the state of Michigan would assert, and I certainly cannot assert on the comparative evidence, that we are getting, as we should have, absolutely complete registration of births in Michigan. These facts are of the most absorbing interest, in the comparative study of the growth of our population.

One point I should like to make is in regard to the number of individuals in Michigan by counties and minor civil divisions. The growth of the rural population of the state can be compared with the rural birth rates. Almost half or two-thirds of the lower counties of the state show a decrease in rural population, corresponding to the extremely low birth rates prevailing in the state.

I should like to make reference to one very important use of the birth rate statistics in connection with the saving of infant life. Many of you have seen, I presume, the pamphlet published on birth registration, the first pamphlet issued on that subject. A New York investigation showed the great difficulty of conducting the work of preventing infant mortality, for the reason that we do not know what infant mortality is. It is the ratio of deaths under one year of age to the total deaths. The infant mortality in a great number of European countries has been declining somewhat. It has been brought down from 1901 to 1905 on the basis of statistics published by the French Government. Sweden goes away back in statistical data valuable for this study to 1801 to 1805, beginning last century, the first century for which such data were available. Then comes France, then comes the German Government, and England and Wales begin as late as 1851 to 1855. But practically now all civilized countries in the world have effective registration of births, and of course, the registration of deaths, so they can tell what the ratio of infant mortality is from year to year. Some countries, China, Africa and the United States even, yet possess no records of infant mortality. Unless the American people wake up,

China and Turkey will have satisfactory data for infant mortality long before the United States.

A pamphlet published by the Children's Bureau states, "Convinced that the most effective work in behalf of the public health that can be done in this country today lies in the prevention of infant mortality." The Children's Bureau is brought to the necessity of appealing for legislation, and for such local records as will indicate where and when the babies are born and where and when they die, as a preliminary to an intelligent study of the subject."

I have a letter from Miss Lathrop which I received since coming to this meeting, dated Washington, Jan. 6, 1914: "In answer to your message with reference to Children's Bureaus concerned in the question of raising the standard of birth registration in this country, I can say that I am glad of any opportunity to express our deep interest in this subject. The registration of all births is regarded as of so much importance as a mechanical expedient necessary in the abler care of children that it was made a subject of the first publication of the Children's Bureau. The possibility of taking advantage of the interest shown by women in the Bureau is suggested as a second step toward improvement of registration, a systematized co-operation with the General Federation of Women's Clubs and other associations in making a test of birth registration in different states. The response has been very gratifying. Committees of women are now working in many of the cities and towns of New Hampshire, Connecticut, Iowa, Kentucky and Colorado, and the work will soon be organized in the states of Washington and California. The club women are taking the names of a certain number of the babies born in 1913 and learning by inquiry of the local authorities whether births have been registered. The attitude of the state toward local health officers and registration authorities has been shown friendly throughout the investigation. The authorities can assist most especially by giving publicity to their endorsement of the club women's work in making the test.

"In some instances a little difficulty has been experienced in convincing the women that the proposed investigation is not intended as a critical test of the work of the registration officials, but is primarily a propaganda to stimulate public interest and very complete registration, and thereby to be a distinct help to the authorities. Interest and friendly attitude on the part of the health officials will do a great deal toward removing the impression that the test is not welcomed by all earnest state officers."

There I see a very important opportunity for this Conference to demand that such registration be complete in this state, and in our

other states, and to stand behind the health authorities and urge upon them the necessity of enforcing the law.

I will close now by a brief reference to the birth rates of certain countries, and the general decline in birth rates and death rates. The difference between the birth rates and the death rates in England, and in Wales, for instance, is an actual increase of population. That determines the growth of a country, aside from immigration. If we have interest in our national existence, if we believe in ourselves as Americans, or if any other country believes in itself, it should be a very apprehensive time when the difference between the death rate and the birth rate is wiped out. I have no idea that the science of eugenics will ever become a science of nogenics, but it is certain that there is a marked tendency in some of the more civilized populations to a very great reduction in this difference.

I have called your attention to the Michigan death rates because they were utterly worthless up to this time and to show the great waste of effort given in this country in collecting statistics that are of no value, because the laws for collecting are either not properly regulated or not properly enforced. The Michigan birth rate, until the passage of the law that went into effect Jan. 1, 1906, was equally worthless. In 1890 the record went up higher than it was for the first year of the operation of the new law, but the Michigan birth rate records from about 1877 to 1891 were the result of fraudulent efforts employed, and should be wiped out. Beginning in 1906, the law ran along without the improvement which should have resulted the first few years. It was naturally not enforced. In 1911 and 1912, there has been some increase, but I do not believe it means an increase in the birth rate of Michigan but simply means an increase in the returns of births owing to better registration.

I will conclude by simply making the suggestion that it might be well, perhaps, if this organization would formally take some action in regard to the importance of birth registration, and perhaps appoint a committee to take up the matter as a national and state question.

ACTING CHAIRMAN CREEGAN

Dr. Wilbur has given us a wonderfully interesting address, but his modesty has omitted something that will be of intense interest to all of you. He said Michigan was the first to start off with vital statistics, but he did not tell us that Doctor Wilbur was the man who started the thing off with Michigan. The distinction he won for himself—without trying to do it—carried him to Washington to take the whole United States under his care, on this matter of vital statistics. Let us all help him to carry out his program.

DIFFERENTIAL FECUNDITY

WALTER F. WILLCOX, LL.D., Professor of Political Economy and Statistics,
Cornell University, Ithaca, N. Y.

Having been honored with an invitation to address you upon the subject of "differential fecundity as one of the causes of the need for race betterment," I have felt it both a privilege and a duty to accept the invitation.

At the start it is well to define *fecundity*. This is the more necessary because the definition used in biology and medicine differs somewhat from that used in statistics. The definition propounded by Prof. Raymond Pearl, in his paper before the First International Eugenics Congress at London in 1912, was as follows: "the innate potential reproductive capacity of the individual organism as denoted by its ability to form and separate from the body mature germ cells." For human statistics this definition is inapplicable and useless. Statistics disregards potential as distinguished from actual or realized fecundity and makes fecundity a characteristic, not of men or women, husbands or wives, but of marriages. For present purposes, then, it is a term applied to marriages which have proved fruitful in the birth of at least one child, and is thus the opposite of sterility.

In some technical discussions a distinction is drawn between fecundity and fertility, the former being applied indiscriminately to every marriage which has resulted in the birth of a child, the latter taking into account also the number of children born to the marriage. If we were to accept this distinction, two marriages, to one of which a single child had been born and to the other of which six children had been born, would be equally fecund, for fecundity has no degrees, but the marriage which had resulted in six children would be more fertile than the other. In the present paper, which must be general in character, this distinction between fecundity and fertility will be ignored. For our purposes, fecundity means the yield of living births in any population group in a unit of time, usually a year. This yield can seldom be effectively stated as a total number of births, for such a number ignores variations in the size of the group which produces it. To avoid this difficulty fecundity is stated ordinarily as a proportion or ratio, called the *birth rate*.

The word *differential* also must detain us a moment. The differences which it implies are differences in the fecundity of various population groups and, in consequence, differences in the rates at which these groups perpetuate themselves and multiply by Nature's processes of birth and death. The real things to be compared are the rates of increase or of decrease resulting from the balance between these

natural processes. The birth rate or fecundity gives only one term, when what is wanted is the difference between two terms, the birth rate and the death rate. A population group may increase either by excess of births over deaths, or by excess of immigration over emigration or by various combinations of these two kinds of change reënforcing or antagonizing each other. An increase by excess of births, or what is called natural increase, differs from an increase by excess of immigration over emigration, or migratory increase, in that it is more likely to carry on into the next generation through heredity the main characteristics of the parent stock. Where the group is increased by immigration there is less warrant for supposing that its qualities will be perpetuated.

My real theme, then, may be phrased as "Differences in the Rates of Natural Increase," a more accurate title than "Differential Fecundity." In addition to defining my subject more exactly this has an incidental advantage. The fecundity or birth rate of the population of the United States is unknown; the fecundity of any of the numerous groups into which that population may be divided, with the possible exception of a few states, is likewise unknown. Neither do we know the mortality or death rate of the population of the United States, although we do know the death rate of many states and are rapidly advancing towards a determination of the rate for the entire country. These facts might seem to make a paper on "Differential Fecundity" or "Natural Increase" almost impossible. But if a group is unaffected by migration, its total increase at one date over the number at a prior date determined from two successive censuses is a measure of its natural increase. The population of the United States is far from satisfying this condition, yet within it there are certain groups, *e. g.*, Negroes and Indians, so little affected by migration that we may measure their natural increase from census returns, though neither their fecundity nor their mortality is known. Even for the whites the effort to measure the natural increase by allowing for the increase due to immigration is not absolutely hopeless.

My subject, then, assumes that the population can be divided into groups the natural increase of which can be determined and compared, and my aim is to review the present state of statistical knowledge regarding the natural increase of such groups. The American population groups of whose natural increase I shall speak briefly are the white and the negro races, the native and the foreign born, the several nativity strains among the foreign born, the urban and the rural population.

Among savage or semi-civilized people, where the overwhelming majority live little above the starvation point, there is a reciprocal re-

lation between births and deaths. When the deaths increase, the births decrease; when the deaths decrease, the births increase. For example, in European Russia in the famine year 1892 the deaths exceeded the annual average of the years before and after the famine by more than half a million and the births in that year fell below the annual average for the years before and after by more than 300,000. Conversely, in such countries a bountiful crop lowers the death rate during the time the food lasts, and raises sharply the birth rate a few months later. Most civilized countries have emancipated themselves from this close dependence upon food and in them no relation can be traced between the crop of grain and the crop of babies. In such countries the only surviving relics of this reciprocal relation between births and deaths are found in cases of war and pestilence. Thus, in Massachusetts, the effect of the Civil War was apparently more marked in reducing the birth rate than in raising the death rate. The first of the recent epidemics of influenza, sweeping rapidly from Russia over Europe and her outposts in the winter of 1889-90, was the main reason that in nearly every civilized country 1890 was a year with a very high death rate. But no attention has been called to the fact that the births in Europe during that year were 200,000 below the average of the preceding five years and that these losses of life by reduction of the births came in each country from eight to ten months after the mortality from the influenza reached its height.

During the last fifty years or less the most marked change in the birth rates and death rates of civilized countries has been the gradual decline and almost complete disappearance of this reciprocal relation between births and deaths, whereby the most significant changes were those between one year and the next and these changes were usually in opposite directions, and the appearance in its place of a tendency for birth rates and death rates to decrease slowly but steadily for a long series of consecutive years. The annual variations are much less, but the total change in ten or twenty years much greater than under the earlier conditions. Usually the decline began with the death rate and in that case its effect would necessarily be to magnify the natural increase. But a decline in the birth rate soon set in and is proceeding now in most civilized countries about as fast as the death rate. Indeed, such a change was inevitable, if the natural increase was not to be more rapid than the increase in wealth or food. We must never forget that the decline in the birth rate and that alone has enabled mankind to hold fast the advantages promised by the advance of civilization and the sharp fall in the death rate. The serious and disturbing fact is not the mere decline in the birth rate but the differential decline. Apparently many strains or lines of de-

scent which one might most desire to see continued and increased are strains which are losing ground relatively, if not absolutely, by a decrease of the birth rate more rapid than that of the death rate.

The largest and in some respects the most important population groups about whose rates of natural increase I wish to speak are the great races of man—the European, Asiatic, and African. Their increase has been and still is in the main dependent upon differences in the certainty and sufficiency of the food supply. The great reason for the rapid multiplication of the European folk and their descendants in other parts of the world from perhaps 130 millions in the middle of the eighteenth century to more than 550 millions now, while during the same period the numbers of other races have altered but little, is found in the fact that new territorial discoveries and new methods of stimulating agricultural production and the transportation of persons and goods have concurred to increase enormously the supplies of food available for the white race. There is no reason to suppose that the fecundity or fertility of this race is greater than that of other races or greater than it formerly was. Its natural increase has been unprecedented not because its birth rate has risen but because its death rate has fallen, and fallen more rapidly than its birth rate.

In our own country and especially in the Southern States this divergence in rates of natural increase is working out results of interest for the two great races. That the white race is slowly displacing the negroes in the United States is now well known. That this is due to the differences in the rates of total increase is equally familiar. But the whites are being constantly reinforced by immigrants and the negroes are not. Where migration is a potent factor, total increase is an untrustworthy clue to natural increase. For this reason we may get nearer the truth by confining attention to the Southern States. Under the slavery régime and the saturnalia of reconstruction which followed, *i. e.*, from 1790 to 1880, the increase of the two races in the South, and—so far as we may disregard the effects of migration and identify natural increase with total increase—their natural increase was at about the same rate. During these ninety years, when the negroes were fewest relatively, they were 35 per cent of the total population of the South; when they were most numerous, they were 38 per cent, a difference of only 3 per cent. But since 1880 the Southern whites have increased much more rapidly than the Southern negroes and as a result the proportion of the latter is dwindling. In thirty years that proportion has decreased more than six per cent, or more than two per cent in each decade.

In the United States as a whole the more rapid increase of the

whites is due not only to the influx of hundreds of thousands of white immigrants, but also to the fact that in the registration area in 1910—an area including nearly three-fifths of the whites and more than one-fifth of the negroes and so a fair index of conditions in the country at large—the negro death rate exceeded the white by about two-thirds. If the fecundity of the darker race likewise exceeded that of the whites by two-thirds, the difference in the death rates would not entail a different rate of natural increase. Although no exact measure of fecundity can be gained until there is an effective registration of births, a rough substitute for it has been found in the proportion of living children under five years of age to one thousand women of child-bearing age. Measured in this way, the fecundity of the American negro is and has been for the sixty years since 1850 greater than that of the white. During the thirty years since 1880—and those are just the years within which the proportion of negroes in the South has been falling—the excess in the proportion of negro children to mothers over white children to their mothers in the country has likewise been falling. The present difference in fecundity between the races is little more than one-fourth of that in 1880 and at present rates of change it will have disappeared entirely before the next census is taken. In the South the proportions of children in the total population and in each race are notably above the corresponding proportions in the North. Indeed it is probable that a main reason for the greater fecundity of the negro race is found in the fact that this race, of which nearly nine-tenths live in the South, has the high fecundity characteristic of the South, while the white race, of which the majority live in the North, has the lower fecundity characteristic of the North. For in the Southern States the proportion of children to women among the whites already exceeds that among the negroes by ten per cent.

The evidence, then, points to a differential natural increase as an important factor, a factor in my opinion at least as important as immigration, in determining the present and future relative proportions of the two main races in this country.

Among the whites, the main classes whose differential fecundity has been somewhat studied are the native and the foreign-born stock. This branch of the inquiry is difficult not only because of that lack of data which almost baffles one in studying the differential fecundity of white and negro, but also because the lines between the two classes are fluid and variable. A son born of immigrant parents the day after their landing is of the same stock as they, yet in the statistical tables he stands as a native American and they as foreign-born or immigrant. Although efforts have been made to measure the proportion of the white population of the United States at the end of the nineteenth

century which sprang from the whites who were in this country at its beginning and the proportion due to immigration during the century, yet none of the results seems to have won or to be entitled to general acceptance, and for that reason I must pass this topic as still a happy hunting ground for conjecture.

A careful and illuminating study of the comparative fecundity of the native and the foreign-born population of Massachusetts and of the various strains of the foreign-born in that state during the fifteen years 1883-1897 was made in 1901 by Dr. R. R. Kuezynski.* The proportion of married women who had outlived the child-bearing age without having borne any child was 9 per cent among the foreign-born, and 15 per cent among the native, indicating that the proportion of sterile marriages is about two-thirds greater among natives than among foreign-born. The average annual number of births among 1,000 immigrants was more than three times as great as among 1,000 natives of the United States. But a large proportion of the natives and a small proportion of immigrants are children, and for this reason a fairer comparison of fecundity was made by excluding the children both from the native and from the foreign-born. After this correction had been made, the fecundity of the foreign-born was found to be a little more than twice that of the native. The birth rate varied with the place of birth of the mother, the lowest rate being found when the Massachusetts wife was born in some other New England state, the highest rate when the Massachusetts wife was born in Portugal, the latter rate being more than four times the former. When all women over fifty years of age and all younger unmarried women were excluded, the foreign-born birth rate was found to be greater than the native by about three-fourths.

Another study of the fecundity of married women, comparing native and foreign-born wives in New Hampshire and introducing a classification by age, added the interesting result that, while the birth rate of foreign-born wives at all ages was twice that of native wives, this was a resultant or average of differences which grew steadily greater with the age of the classes compared. The birth rate of foreign-born wives at ages under 20 exceeded that of native wives by less than one-fourth, but at ages 25 to 34 it was more than double and at ages 35 to 44 was almost treble that of native wives.† This suggests that a large part at least of the difference between the fecundity of the native and the immigrant stock in New Hampshire is due to psycho-

* In the *Quarterly Journal of Economics* for November, 1901, and February, 1902.

† A. A. Young, "Birth Rate in New Hampshire" in *Am. Stat. Assn., Quart. Pubs.*, IX (September, 1905), p. 280.

logical rather than physiological causes, or causes which express themselves in the voluntary choice of small families rather than in sterility. An attempt to estimate the comparative fecundity in 1900 of native and foreign-born women in the United States, including wives and spinsters and with no allowance for differences in age distribution, indicated that the fecundity of foreign-born women exceeded that of native women by more than fifty per cent.*

The statistics of Massachusetts, although they were probably as good as those of any state, did not and do not yet afford the information needed for a thorough study of the death rate, and so of the difference between birth rate and death rate, or natural increase, of the native and foreign-born. But a comparison of the existing material with that furnished in Berlin, where a similar problem has been studied perhaps as carefully as anywhere in the world, led Doctor Kuczynski to conclude that the native population of Massachusetts is probably dying out at a rapid rate.

Since his articles were written, material has accumulated making it possible to compare the mortality of the native and the foreign-born in 1900 in the registration area of the United States, which embraced two-fifths of the population of the country and much more than that proportion of the foreign-born,† and in 1910 in New York State. These results show that for ages between ten and forty there is very little difference between the death rate of natives and of foreign-born of the same sex and age and that what differences do exist are quite as often in favor of the foreign-born as the native. Since the fecundity of the foreign-born is at least fifty per cent greater than that of the native and the mortality is about the same, the difference between them, or the natural increase of the foreign-born, must be far above that of the native population.

Another classification of the population has been employed in studies of differential fecundity, that into the urban and the rural population. Under urban is included all residents of cities each having at least 25,000 inhabitants, all the rest of the population being treated as rural. The division line of 25,000 is much too high, but the form of the printed tables makes it impossible to put the limit lower. The fecundity of city women 15-44 years of age is only about two-

* Twelfth Census, *Supplementary Analysis*, p. 420.

† This is the only fact brought out, I believe, for the first time in the present paper. The results for New York State in 1910 will be found in my last report as consulting-statistician to the New York State Department of Health; the confirmatory results for about forty per cent of the population of the United States in 1900 have been computed from a ms. table kindly furnished me by the Census Bureau.

thirds that of country women. But in the United States cities are massed at the North and the North has a low fecundity. The low urban fecundity, then, may be due to the northern location and not to city life. To test this, a comparison has been made between the cities of the North and the country districts of the North and between the cities of the South and the country districts of the South. Such a comparison indicates that in all main divisions of the United States fecundity in country districts is greater than fecundity in cities. It indicates also that the difference between city and country in this respect is at a minimum of about 10 per cent in the North Atlantic group and at a maximum in the Southern groups where rural fecundity is about double urban fecundity. This geographic difference may be plausibly explained as due to the numerous immigrants in Northern cities and their high fecundity and to the numerous negroes in Southern cities and their low fecundity. For the fecundity of city negroes is only about two-thirds the fecundity of city whites, but the fecundity of country negroes is much above that of country whites. The growth of cities, especially in the South, and of a negro urban population seems likely to increase the differences in the fecundity of whites and negroes.

The twenty-eighth volume of the Report of the Immigration Commission, printed in 1911, contains a contribution to our subject, entitled "Fecundity of Immigrant Women," the main conclusions of which have been summarized by the author in an article in a recent issue of the *Quarterly Publications* of the American Statistical Association.* The tables were compiled from manuscript data in the United States Census Bureau and deal in the main with nearly 80,000 married women under 45 years of age living in the second decade of married life and with the number of children they have had.

This is the most important American study of fecundity and supplements in many ways what we previously knew. It classifies white wives as native of native parents, native of foreign parents and foreign-born and adds scanty data about negro wives. Of the negro wives who had been married between ten and twenty years, one in five had had no child; of the native white of native parents, one in eight; of the native white of foreign parents, one in sixteen; and of the foreign-born wives, one in nineteen. The proportion of sterile marriages was determined for the various nationality classes of the foreign-born; it is highest among wives born in Scotland or England, lowest among wives born in Poland, Bohemia, or Russia and the pro-

* Joseph A. Hill, "Comparative Fecundity of Women of Native and Foreign Parentage," in *Am. Stat. Assn. Quart. Pubs.*, XIII, pp. 583-604 (December, 1913).

portion of sterile marriages among those where the wife was born in one of the first-mentioned countries was about four times as great as among marriages where the wife was born in a country belonging to the second group. Among no group of foreign-born wives, however, is the proportion of sterile marriages as great as among marriages where the wives were born in the United States.

With reference to the average number of children born to these groups of wives of various countries of birth, the smallest number is to wives of native American birth and parentage. Ten such marriages have resulted in 27 children; ten negro marriages, in 31 children; ten marriages in which the wives were born in England, in 34 children; and at the other extreme, ten marriages with wives born in Russia, in 54 children; ten with wives born in French Canada, in 56; and ten with wives born in Poland, in 62.

The average interval of time elapsing between births is for wives born in the United States 5.3 years; for wives born in Poland, 2.3 years. This interval between births is uniformly greater in the second generation of immigrants than in the first. But the proportion of sterile marriages does not rise similarly. So the tendency is to a reduction in the size of families rather than to a larger proportion of sterile unions.

The influence of rural conditions upon fecundity is best measured by the statement that among wives born in this country of native parents and married between ten and twenty years, ten living in urban districts have had on the average 24 or 25 children, while ten living in rural districts have had on the average 34 children, indicating that the fecundity of wives of a given nativity class living in the country is about two-fifths greater than it is in the city.

Perhaps the most important body of information regarding differential fecundity or comparative rates of natural increase in the United States has been secured, as an immediate or remote result of the addition to the Massachusetts census schedule of 1875 of the question, "Number of children borne by women," the object of which "was to ascertain the relative fecundity of women of different nationalities and to settle . . . the question which continually arises concerning the growth of our native population as compared with that of our foreign-born."* Ten years later similar information was sought in fuller detail by asking of each married woman two questions: "Mother of how many children" and "Number of those children now living." The results of tabulating the answers to these questions were carefully analyzed in the state census and were also of importance to Doctor Kuczynski in the preparation of his articles. The interest aroused in these questions and their answers was so great that five

* Massachusetts Census of 1875, Vol. 1, p. xli.

years later, in 1890, the same questions were placed on the schedules of the United States census, but unfortunately no tabulation of the results was ever made. In 1900, after much consideration by the office, the same questions were asked again, and again, after much preliminary work had been done upon the answers, the work was discontinued and no results ever reached the public except for the fragmentary tabulation made by the Immigration Commission and applying to about four per cent of the population.

Yet again at the census in 1910 these questions were repeated a third time and in the report of the Director of the Census to the Secretary of Commerce and Labor for that year one may find the following passage: "It is also proposed . . . to work out from the returns on the schedules statistics with regard to fecundity as indicated by the number of children born and the number living for women of different classes in comparison with their age and the duration of marriage. . . . A considerable amount of preliminary work on this subject was undertaken at the census of 1900 but the results were never tabulated or published. It is respectfully suggested that the Secretary recommend to Congress that the Director of the Census be authorized to tabulate the more important information on this subject for the 1900 census as well as that for 1910. . . . This subject is one of profound importance and the census schedules furnish data by which conclusions of the utmost value can be readily drawn. A plan has been devised by which the expense of . . . tabulating the results on this subject for the census of 1910 will be much less than would have been necessary to complete the work on the lines begun in 1900."*

At the present time no funds are available for completing this work and there is danger that for the third time the inquiry will suffer shipwreck. This investigation has been imitated abroad, some of the most interesting and significant results of the last French census being derived from the answers to similar questions. In my opinion the failure to utilize the answers to these questions was one of the main defects of the census of 1890, was the most serious defect of the census of 1900 and now bids fair to be the most serious defect of the census of 1910. In Doctor Hill's paper already quoted and written a few months ago, we read: "It is to be hoped . . . that the returns obtained at the census of 1910 will not be similarly neglected, but as yet no steps have been taken towards their tabulation." If it had been the policy of this Conference to adopt resolutions or make recommendations, I should have proposed the adoption of some such resolution as the following:

* Report of the Director for 1909-10, pp. 45-6.

Resolved, that the National Conference on Race Betterment appoint a committee with power:

1. To memorialize the Congress of the United States in the name of this Conference, urging it to provide the funds needed for compiling the returns now on the schedules of the census of 1910 and thereby measuring the fecundity of the races and national elements within the United States;

2. To attempt to secure the presentation of similar petitions from other organizations or from individuals interested in this subject.

Whether such a resolution would be welcome or not, I sincerely hope that individuals will write to individual Congressmen urging such action as is here proposed.

In my judgment, no statistical result could come from this Conference more valuable than a concerted effort to increase the available information regarding the comparative fecundity of the various strains in our population, for this information lying unused in the government files is of more value and importance than the entire sum of information on differential fecundity now possessed by the American people.

GENERAL INDIVIDUAL HYGIENE

THE IMPORTANCE OF FREQUENT AND THOROUGH MEDICAL EXAMINATIONS OF THE WELL

VICTOR C. VAUGHAN, LL.D., M.D., President-Elect American Medical Association; President Michigan State Board of Health, Ann Arbor, Mich.

What I have to tell tonight is in a little different form than that announseed to you. I am going to read to you *Dr. Smith's dream*:

THE DOCTOR'S DREAM

Doetor Smith is a practitioner in one of the large cities of the Middle West. He is a man of good training, a elassieal graduate, took his professional eourse in one of our best schools, and did hospital serviee both at home and abroad. He is a general practitioner, and keeps well posted in all that he does. He makes no elaim to universal knowledge or skill, but is conscientious in all his work, and when he meets with a case needing the service of a specialist he does not hesitate to eall in the best help. He has made a good living, demands fair fees from those who are able to pay, and gives much gratuitous service to the poor. He is beloved by his patients, held in high esteem by his confreres, and respected by all who know him. He is a keen observer, reads eharacter for the most part eorrectly, and is not easily imposed upon. While he recognizes the value of his services, he is not in the practice of medicine with the expeetation of getting rich, and his interests are largely human and scientific. He has deep sympathy for those whose ignorance leads them to sin against their own bodies, but he is devoid of weak sentimentality and does not hesitate to admonish and even denounce the misdeeds of his patients, whatever their social position. During twenty years of practice in the same locality he has become acquainted with the vices and virtues of many families. He is not looking for the coming of the millennium, but he is often impatient of the slow pae with which the race moves towards physieal, mental and moral betterment. One of his patients is a large manufacturer employing many unskilled laborers. Doetor Smith has often pointed out to this man that the efficiency of his working force would be multiplied many times were the men paid better wages, the work done in rooms better lighted and ventilated, and in general with a little more humanness shown them. Another is at the head of a

large mercantile house which employs clerks at the lowest possible wages and makes the conditions of life well-nigh unendurable. A wealthy woman gives largely to church and charity from her revenues which come from the rental of houses in the red light district. Another of the doctor's patrons is a grocer who sells "egg substitutes" and similar products "all guaranteed under the pure food law." We will not continue the list of the doctor's patrons and it must not be inferred that all are bad, for this is not true. The majority are honest, conscientious people, as is the case in all communities. Our country has a population of nearly one hundred millions. Millions of these are decent, respectable citizens, not altogether wise, but for the most part well intentioned. Thousands are brutal in their instincts, criminal in their pursuits, and breeders of their kinds. We claim to be civilized, but there are those among us who would be stoned to death were they to attempt to live in a tribe of savages. But I must stop these parenthetical excursions and get back to Doctor Smith and his dream.

On a certain day in November of the past year he had been unusually busy, even for one whose working hours frequently double the legal limit. During his office hours he had seen several cases which gave him grave concern. There was William Thompson, the son of his old classmate and college chum, now Judge Thompson. William finished at the old University and is now an embryo lawyer promising to follow in the footsteps of his honored and honorable father, but William belonged to a fast fraternity at college and came to Doctor Smith this morning with copper colored spots over his body and a local sore. The doctor easily diagnosed the case and pointed out to William that he was a walking culture flask of spirochetes, a constant source of danger to all who should come in contact with him, and that years of treatment would be necessary to render him sound again. On the lip of a girl, the daughter of another old friend, the doctor had found a chancre caused by a kiss from her fiancé, a supposedly upright man prominent in church and social circles. He had seen a case of gonorrhea in a girl baby contracted from her mother, the wife of a laboring man. A case of gonorrheal ophthalmia in a young man whose only sin was that he had used the same towel used by an older brother next demanded his attention. Several cases of advanced tuberculosis among those who had been told by less conscientious physicians that the cough was only a bronchial trouble made Doctor Smith lament the standard of skill and honor among some of his professional brethren. Rapid loss in weight in an old friend who had been too busy to consult him earlier was diagnosed as neglected diabetes. In another instance dimness of vision and frequent headaches persisting

for months had not sufficed to send an active business man to the physician. This proved to be an advanced case of Bright's disease, which should have been recognized two years earlier. Urinary, ophthalmoscopic and blood-pressure tests demonstrated the seriousness of the present condition. A breast tumor on the wife of an old and respected friend showed extensive involvement of the axillary glands and the operation demanded promised only temporary relief, while had it been done months before, complete removal of the diseased tissue would have resulted. In making his calls for the day Doctor Smith had experienced both among the well-to-do and the poor many things which had brought within the range of his vision more and darker clouds than those which floated in the dull November sky.

More than a year before he had become estranged from the family of one of his oldest and best friends. The breaking of this relationship, which had continued from his earliest professional service and had been filled with the common joys and sorrows shared only by the family physician and those under his charge, had cast a deep shadow over the doctor's life. He had officiated at the birth of each of his friend's five children, and he felt a parental love and pride in them as he saw them grow into healthy womanhood and manhood. A little more than a year ago, he learned that the oldest of these children, a beautiful and healthy girl of eighteen, was engaged to a young man whom he knew to be a rake. In a spirit of altruism he had gone to the father and mother and protested against the sacrifice of the daughter. This kindly intended intervention was met with a stormy rebuff, and the doctor was rudely dismissed from his friend's house. But when the young woman, whose life with her unfaithful husband had made her deeply regret her fatal infatuation, felt the first pains of childbirth she begged of her parents that her old friend might be sent for, and that morning he had delivered her of a syphilitic child. How unlike the previous births at which he had officiated in this friend's house! It had been the custom to have the doctor at every birthday dinner given the five children, and one of the boys bore his name. There would be no birthdays for this, the first grandchild, and what could the future promise the young mother? Surely, the November day was overcast with clouds for Doctor Smith before its gray light awoke the slumbering city. As he walked the few short blocks from his friend's to his own home, he cried in deepest sorrow, How many thousands of daughters must be sacrificed before their parents will permit them to walk in the light of knowledge and not in the shadow of ignorance? After a breakfast, which was scarcely tasted, he read in the morning paper the announcement that "Damaged Goods," which was to have been given in his University town, had met

with such a storm of protest from the learned members of the faculty that the engagement had been canceled. "Surely," he said, "the fetters of prudery and custom bind both the learned and the unlearned."

After his morning office hours Doctor Smith visited his patients at the city hospital. Here is a wreck from cocaine intoxication, the poison having been purchased from a drug-store owned by a prominent local politician. In a padded cell is a man with delirium tremens, a patron of a gilded saloon run by another political boss. In the lying-in ward are a dozen girls seduced in as many dance halls with drinking alcoves. Time will relieve these girls of the products of conception, a longer time will be required to free them from the diseases which they have contracted, but all time will not wash away the stains on their lives, and what of the fatherless children to be born? Thirty beds are filled with typhoids, who under the best conditions must spend long weeks in the bondage of a fever, which day by day gradually but inexorably tightens its grasp. The furred tongue, glazed eyes, flushed cheeks, bounding pulses, emaciated frames, delirious brains were all due to the fact that a large manufacturer had run a private sewer into the river above the water works. The greed and ignorance of one business firm had been permitted to endanger the lives of half a million of people. In his family calls the doctor met with conditions equally lamentable. A fond mother in her ignorance had nursed a sore throat in one of her children with domestic remedies. The membranous patches on the tonsils, extending upward into the nasal passages and downward into the larynx, and the cyanotic face with labored breathing showed that even the magical curative action of diphtheria antitoxin, that wonderful discovery of modern medicine, would be of little avail in this individual case. The other children were treated with immunizing doses and the doctor had the consolation of knowing that death's harvest in that household would be limited to the one whom the mother's ignorance had doomed.

The next call brought Doctor Smith to a home in which the conditions were equally deplorable and still more inexcusable. One of the children some months before had been bitten by a strange cur which soon disappeared in the alley. The wound was only a scratch and was soon forgotten. Now, the child was showing the first symptoms of that horrible disease hydrophobia. But dogs must not be muzzled—women, with plumes torn from living birds in their hats, had formed a society for the prevention of cruelty to animals, and had so declared.

It must not be inferred that all of Doctor Smith's experiences on that November day were sad. Men are mortal; all sickness is not preventable, accidents will happen and distressing injuries result. This

world is not an Eden and no one expects that all sorrow will be banished from it. Decey and death approach with advancing years. Strength and weakness are relative terms and those possessed of the former must help bear the burdens of those afflicted with the latter. Doctor Smith, being a hard-headed, reasonable, scientific man, is no Utopian, and he frequently meets in sick rooms experiences which greatly increase both his interest and his confidence in man. He finds the young and vigorous denying themselves many pleasures in order to brighten the pathways of the old and infirm, the fortunate lending a helping hand to the unfortunate, and the wise leading the unwise. No one, more than the family physician, can measure and appreciate the innate goodness that springs, without an effort, from the heart of humanity. It is difficult for the physician of large experience to unreservedly condemn anyone, and he is inclined to regard all sins as due to either heredity or environment. However, it must be admitted that on this day Doctor Smith had seen but little sunshine and the clouds that had gathered about him had hidden the virtues and magnified the vices of his community. Especially was this true of the vice of ignorance, for ignorance which results in injury to one's fellows is not only a vice, but a crime, a moral if not a statutory one.

Late that night as the doctor sat before his grate he fell asleep, and now he is busy among his patients in a way hitherto quite unknown to him. His waiting-room is filled with people, old and young, of both sexes, who have come to be examined in order to ascertain the exact condition of their health. A young man before proposing marriage to the woman of his choice wishes a thorough examination. He wishes to know that in offering himself he is not bringing to the woman any harm. He desires to become the father of healthy children and he is not willing to transmit any serious defect to them. He tells the doctor to examine him as carefully as he would were he applying for a large life insurance. The doctor goes through the most thorough physical examination and tests the secretions and blood with the utmost care. He understands his own responsibility in the matter and appreciates the high sense of honor displayed by his patient. A young woman for like reasons has delayed her final answer to the man who has asked her hand in order that the doctor might pass upon her case. Here is the doctor's old friend, William Stone. Mr. Stone is in the early fifties. He has been a highly successful, honorable business man, has accumulated a sufficiency and enjoys the good things which his wife prepares for the table. A careful examination of the urine leads the doctor to caution Mr. Stone to reduce the carbohydrates in his food. Mr. Perkins, a lawyer who throws his whole strength into every

case he tries, of late has found himself easily irritated, shows increased urinary secretion and a blood-pressure rather high. A vacation with light exercise and more rest is the preventive prescription which he receives. Mrs. Williams, after being examined by Doctor Smith, undergoes a slight operation under local anesthesia, and is relieved of the first and only malignant cells found in her breast. Richard Roe, who is preparing for a long journey, is vaccinated against typhoid fever, a disease no longer existent in Doctor Smith's city since pollution of the water has been discontinued. John Doe, who is a mineralogical expert and wishes to do some prospecting in high altitudes, has his heart examined. There are numerous applicants for pulmonary examination. This is done by Doctor Smith and his assistants in a most thorough and up-to-date manner, and advice is given each according to the findings. It has been many years since Doctor Smith has seen an advanced case of pulmonary tuberculosis and the great white plague will soon be a thing of the past. Everybody goes to a physician twice a year and undergoes a thorough examination. The result of this examination is stated in a permanent record and no two consecutive examinations are made by the same physician, in order that a condition overlooked by one may be detected by another. Cases of doubt or in which there is difference of opinion are referred to special boards. The average of human life has been greatly increased and the sum of human suffering has been greatly decreased. Preventive has largely replaced curative medicine. Tenements are no longer known; prostitution and with it the venereal diseases have disappeared. Institutions for the feeble-minded are no longer needed, because the breed has died out. Insanity is rapidly decreasing because its chief progenitors, alcoholism and syphilis, have been suppressed. These and many other pleasing visions come to Doctor Smith in his dream, from which he is startled by the ring of the telephone at his elbow. The call says: "Come quickly to Pat Ryan's saloon at the corner of Myrtle and Second. There has been a drunken row. Bring your surgical instruments." Then the smiles which had played over the face of the doctor in his dream were displaced by lines of care and he went forth into the darkness of ignorance and crime.

There are many Doctor Smith's and they have been seeing pleasing visions in their dreams, and meeting with stern realities in their waking hours. Nearly fifty thousand Doctor Smith's constitute the American Medical Association, which is expending thousands of dollars annually in trying to so educate the people that unnecessary disease may be prevented. The doctors are asking that the work of the national, state, municipal and rural health organizations may be made

more effective, that the knowledge gained in the study of the causation of disease may be utilized. The world has seen what has been done in Havana and on the Canal Zone, how yellow fever and malaria have been suppressed, and how the most pestilential spots on earth may be converted into healthful habitations for man. Scientific medicine has made these demonstrations and the world applauds, but seems slow to make general application of the rules of hygiene.

Doctor Foster had experienced the doctor's dream when he said in 1909: "I look forward with confidence to the time when preventable diseases will be prevented, and when curable diseases will be recognized in the curable stage and will be cured, and I believe the grandest triumphs of civilization will be the achievements which will result from a realization of the possibilities of preventive medicine."

Professor Fisher, a most earnest and intelligent student of means for the prevention of sickness and the deferring of death, has stated that "by the intelligent application of our present knowledge, the average span of human life may be increased full fifteen years."

EUTHENICS AND ITS FOUNDER

MRS. MELVIL DEWEY, Honorary Chairman, Institution Economics of the American Home Economics Association, Lake Placid, N. Y.

Genius has been defined as an "infinite capacity for taking pains." Thomas Edison's formula for genius is perhaps more forcible—"two per cent inspiration, ninety-eight per cent perspiration."

Mrs. Ellen H. Richards, who named the science of better living, was endowed with a genius for hard work. America has not yet produced a woman her equal in grasp and breadth of scientific attainments. The list of her degrees, societies and published writings fills six pages in the Memorial number of the *Journal of Home Economics*, which she founded in 1909. Prof. Maria Mitchell, of Vassar College, claimed to have first discovered her unusual gifts thru her devotion to astronomy. Her chosen life work was sanitary chemistry and as a pioneer she first opened the doors of the Massachusetts Institute of Technology to women. She was also at home in her husband's chair of Mining and Metallurgy and was the only woman ever elected to active membership in the American Institute of Mining Engineers.

Like a strong magnet, she attracted to her men and women of earnest purpose who were doing things in the world, at the same



Mrs. Ellen K. Richards

time radiating powerful currents of enthusiasm and inspiration to all who were associated with her intimately. To discover a new, efficient worker in her sphere of interests gave her the same joy that the astronomer feels when his searching eyes, sweeping the heavens with telescope, discover a new planet.

Sept. 19, 1904, the sixth annual Lake Placid Conference on Home Economics met in the large rustic, white birch living room of an Adirondack lodge, whose windows commanded full view of the highest mountain peaks of the state and looked directly into the beautiful Indian Pass, the dividing line from the tribes of the north, of the famous five nations who formed the ancient Iroquois League.

She was full of enthusiasm for the new word which had come to her, telling us about it before her traveling wraps were fairly removed, but it was during a discussion on nomenclature that she formally referred to the word coined by Sir Francis Galton to express race betterment, Eugenics, and suggested that Euthenics, better living, might be used to represent this work in higher education, adding that "the manufacture of new words is not easy. To suit the public a word must be correctly formed, it must please the public ear and fit the popular tongue." With her usual scientific accuracy she had studied well its etymology and brought ample authority for its meaning from Demosthenes, Herodotus and Aristotle. It seemed much the best word yet offered and it was voted: That the following nomenclature be recommended as the suggestion of the Conference:

HANDWORK in elementary schools.

DOMESTIC SCIENCE in secondary schools.

HOME ECONOMICS in normal and professional schools.

EUTHENICS in colleges and universities.

(Household arts and science and Household Economics have also been widely used.)

Nature had denied her children of flesh and blood and the children of her brain were of absorbing interest. Would the new word be adopted? Would it live?

The new edition of the Standard dictionary gives full definitions of both Eugenics and Euthenics. Their place in the Decimal Classification of literature for libraries has been assigned for the general subjects and will be included in the next edition, now in preparation.

575 Evolution.

.3 Environment, Euthenics.

.6 Development. Survival of the Fittest. Eugenics.

This Conference on Race Betterment proves abundantly the hold they have taken in public sentiment, with promise of large results.

From the very beginning the purpose of her work in home eco-

nomics was educational, dealing with economic and sociologic study of the home and with problems of right living. Its key-note was "Efficiency thru health."

To a marked degree Mrs. Richards had the gift of prophetic vision, the clear ideal that precedes intelligent action. Recognizing that only the child can be educated to acquire habits of right living so perfectly that the suitable action takes place unconsciously, her first efforts were concentrated on developing courses of study correlated with science instruction in all grades of our school system. In a paper before the National Education Association Council in 1908, her masterful plea for the true place of Home Economics in the teaching world as the 4th R, Right living,—to be incorporated in the education of the people—not only brought recognition of its assured place but was followed by her election for a term of six years to the N. E. A. Council, the highest educational authority in the country.

History teaches that the art is developed long before the science in any branch of applied knowledge. Following this logical order, she published in 1904 a small volume called "The Art of Right Living," in which she considers briefly the factors that make up the efficient human individual, showing that right living conditions demand pure food and water, fresh air, sound sleep, safe exercise, cleanliness and sanitary conditions; while environment, shelter (the home) and the proper adjustment of work, rest and amusement, give true zest and happiness to life.

She had a forceful, original way of saying things which often gave to others the stimulus for *doing* them. The mind is apt to grow callous and give little heed to oft-repeated truisms. We know perfectly well the importance and value of daily exercise in order to get rid of the waste which results from all living processes, but we are much more likely to take the brisk morning walk when reminded that "we must shake out the ashes, as it were, from the human furnace, so that the fuel may give energy." The fortunate guest in her Jamaica Plain home, coming down to a 7.30 breakfast, was often surprised to find that she and the Professor had already been out for a long walk or bicycle ride thru the beautiful park ways of the Boston suburbs and were full of enthusiasm in watching the daily progress of buds and blossoms on plants and shrubs, and to learn that this was their daily habit thruout the year, rain, snow or sunshine, before breakfast and the day's work, either a brisk walk around Jamaica Pond, or a bicycle ride, according to season. To them all Nature was an open book, revealing wonderful secrets to those who understand her language. There was great interest one spring in watching the frequent flights of a male robin who was evidently caring for two nests. All day he car-

ried food to the hungry occupants in one tree and then the other; but one problem remained forever unsolved, was this busy bird a philanthropist or a bigamist?

In 1910 was publisht her book on Euthenics, the science of controllable environment, a plea for better living conditions as a first step toward higher human efficiency. In endeavoring to interpret the spirit of her ideals, her vision for the future of this science, world old in substance but new in its dedication to scientific research, her own words are used as far as practicable.

The betterment of living conditions, thru conscious endeavor, for the purpose of securing efficient human beings, is what euthenics meant to her. Not thru chance but thru increase of scientific knowledge; not thru compulsion but thru democratic idealism consciously working thru common interests, will be brought about the creation of right conditions, the control of environment.

Mrs. Richards had been greatly interested in Professor Fisher's Report on National Vitality, publisht about this time and quoting from him: "Human vitality depends upon two primary conditions—heredity and hygiene—or conditions preceding birth and conditions during life," she added:

Eugenics deals with race improvement thru heredity.

Euthenics deals with race improvement thru environment.

Eugenics is hygiene for future generations.

Euthenics is hygiene for the present generation.

Eugenics must await careful investigation.

Euthenics has immediate opportunity.

Euthenics precedes eugenics, developping better men *now*, and thus inevitably creating a better race of men in the future.

Euthenics is the preliminary science on which eugenics must be based. This new science seeks to emphasize the immediate duty of man to better his conditions by availing himself of knowledge already at hand which shall tend to increase health and happiness. He must apply this knowledge under conditions which he can either create, control or modify. Euthenics is to be developed:

1. Thru sanitary science.
2. Thru education.
3. Thru relating science and education to life.

Students of sanitary science discover for us the laws which make for health and the prevention of disease. The laboratory, studying conditions and causes, can already show the way to many remedies.

Mrs. Richards strongly urged the education of all women in the principles of sanitary science, as the key to race progress in the twentieth century. Sanitary science, above all others, when applied,

benefits the whole people, raises the level of productive life. As long ago as 1892 the president of the British Medical Association said: "The whole future progress of sanitary movement rests, for its permanent and executive support, upon the women of our land."

It is barely fifty years since women began to ask questions and insist upon knowing, to claim freedom of movement, a chance to breathe. Some pioneers had to enter the field of research, of investigation, in order that they might call to those below that the way was open, and in science Mrs. Richards was the pioneer. In this book she appeals to the women of America with faith, hope and courage, to put their education, their power of detailed work, and any initiative they may possess, at the service of the state, at the same time warning them that much harm has been done by indiscreet, pushing women with only a glimmer of knowledge who too often approach city councils with some whim or fad, so that all women's demands are classed together. The question is not WOMAN, but ability *and* women. She advises that it is better, as a rule, to work out ideas thru *existing* organizations, rather than create new ones. There must be cooperation between individual and community because the strength of combined endeavor is required to meet all great problems. There is a real contagion of ideas as well as of disease germs.

The dangers to modern life are no less than in pioneer days when stockades were built as a defense against the Indians. Our enemies are no longer savages and wild animals. To see our cruellest foes today, we must use the microscope. Men and women are apathetic over the prevalence of disease, often because of their disbelief in the teachings of science, coupled with a lingering superstition that, after all, it is fate, not will power, which rules the destinies of mankind. In the heedless rush of modern life, it is the indifference of the people themselves which is the greatest obstacle to progress. Where wisdom means effort and discomfort, many feel it folly to be wise.

The great struggle lies with matter in the wrong place—dust, garbage, dirt (flies, mosquitoes)—and as population becomes denser, with crime and the death rate. But man is awakening at last to the fact that he is "the sickest beast alive," that he has himself to blame and that it is within his power to change his conditions speedily. What has already been accomplished in Cuba, Panama, India, the Philippines, and recently in fighting the "black death" in Manchuria, are great lessons in the possibility of reform.

Laws interfering with personal liberty have always been deeply resented by the American citizen. The protection of the man against himself, and of his wife and child against his ignorance and greed, is a comparatively new idea in republican democracy. The cry of pa-

termalism is raised on one hand, of socialism on the other. Each gain has been at the cost of a hard-fought battle, but it is certain that the individual must delegate more or less of his so-called rights for the sake of the race, and since the only excuse for the existence of the individual is the race, he must so far relinquish his authority. "It is only the exceptional man, almost a genius, who learns to modify his habits and his life to his environment and to triumph over his surroundings, his appetites, and the absurd dictates of fashion."

Production of energy, force, power, is the main object of life and nutrition easily ranks first of the primal forces of all living matter and affects the others most profoundly. The richest food areas in the world have provided the most powerful stocks of men of which we have any record. All that we are, either as individuals or as a complex society, is made possible by the food supply, but curiously, in proportion as this is abundant and easily obtained, and as nations rise in the scale of intelligence and comforts, the birth rate is lowered, not increased.

All great nations, too, have lived in a temperate climate, where physical and mental activity was possible for many hours a day. The relation of both food and environment to man's efficiency is a vital question. How far they are responsible for his character, his health and understanding, what special elements are most potent and which are the most readily controlled, are questions offering an interesting field for research.

Probably more harm is done to health by ignoring physical law in the matter of eating than in any other one thing. Public men are dying, not from overwork but from their dinners. Habit, heedlessness, inertia, are all roots of the great disease, ignorance, and the remedy is education, beginning with the child.

We hear much of educating the child for life, but little or nothing of teaching him to live so that the life may be worth living. In our zeal for the mind we have starved and dwarfed the body.

The home is responsible for the upbringing of healthy, intelligent children and in the well-ordered home the child is the business of the day. So long as affection lasts it will seek satisfactory expression in home life, and love of home and of what the home stands for, converts the drudgery of daily routine into a high order of social service. The home table should be the school of good manners and of good food habits of which the child ought not to be deprived, for right living demands the right manner of serving and eating the food. At school the child should become accustomed to the best conditions known to science, he should imbibe with the 3 R's the fundamental principles of right living. This is the time to inculcate facts and habits in regard

to foods, cleanliness, dirt, infection and personal methods in eating, sleeping, exercising, while he is yet plastic and absorbs good methods as readily as bad ones. This is economic, for then he does not have to unlearn before he can adopt new ways.

There was never any artificial teaching devised so good for children as the daily helping in the household tasks. Boys and girls, healthy, industrious, frugal, capable, intelligent, self-supporting, cheerful and patriotic, have abounded in country homes in the past and it has been recognized that the prevalence there of these high qualities was largely due to the family life, which required each individual from his earliest years to bear his share in providing for the maintenance of the home. But the ideal American homestead, that place of busy industry, with occupation for the dozen children, no longer exists. Gone out of it are the industries, gone out of it are ten of the children, gone out of it in large measure is that sense of moral and religious responsibility which was the key-note of the whole. The child without interest in work or play does not develop; the man with no stimulus walks thru life as in a dream. The simplest tasks when well done give a glow of satisfaction. Every child naturally tries to express his thoughts in making things. Of course his attempts are crude but the necessity is there; therefore this joy of doing should be cultivated in children.

The psychology of life includes a definite aim and purpose, therefore the task or daily work is a necessity for mental and physical health. It must be accepted as a part of the science of right living and the will and energy directed to doing it well. It is astonishing how interesting a dull piece of work may become when intelligence is put into it. A young man who went out to California as a '49-er was one day digging away mechanically and listlessly, when an old experienced miner near him said: "Young man, you are wasting a heap of time and strength." He showed him just how to dig, where to take and where to put each shovelful of earth. At the end of the day the youth was surprised to find that he had done twice as much and was only half as tired.

The first step in civilizing a nation or tribe is to teach the people to want things they never had or cared to have, to suggest things to strive for. With savages it may not be the things that are good for them for which they strive, too often the reverse, but it is the incentive to work in order to have more that arouses ambition, stirs dormant faculties, and makes a man or makes a nation out of a horde of inefficient people. All great men and women have had to struggle with obstacles, to deny themselves in order to gain the goal of their ambitions.

A nature lover was watching the efforts of a butterfly to free itself from the cocoon. A period of struggle was followed by a period of

rest till only a few threads remained. The impatient watcher cut these with scissors and the beautiful moth soared upward in the sunshine, fluttering more and more feebly till at last it fell to the ground, unable to rise again. That last struggle was just what was needed to develop the power of sustained flight.

If one lives for pleasure, one does not enjoy life in the degree possible to one who lives for work and finds his pleasures unexpectedly, as side lights on the pathway. Eighty per cent of so-called amusements are not recreations. They exhaust more rapidly than they rest. Momentary excitement is not recuperation, the re-making of nervous tissue. The real pleasure in life comes from the consciousness of power to do what the mind has willed, from seeing the work of one's own hand and brain prosper. Madame de Staël defined happiness as: "Constant occupation upon some desirable object with a continued sense of progress towards its attainment." This work of creation, of transformation to desirable result, is the purest joy the human mind can experience. Mrs. Richards thought that fourteen hours a day was not too much for this kind of task.

Finding that many distractions were breaking in upon their working time and vitality and recognizing that work for the body and work for the mind must be balanced, Mrs. Richards and her husband evolved an acrostic, to be followed as a general rule, which they called the

FEAST OF LIFE

- F Food—one-tenth the time.
- E Exercise—one-tenth the time.
- A Amusement—one-tenth the time.
- S Sleep—three-tenths the time.
- T Task—four-tenths the time.

The delight in life is what we can do with it. The unrecognized cause of the restless discontent so prevalent today is due to an inner sense of ineffectiveness, a want of the feeling of conscious power over *things*. The wage-earner is, for the most part, unskilled. He cannot do well the thing he undertakes; he has power neither over his tools, his materials, nor his muscles and the daily round becomes a deadly monotony. There is a general feeling that the task is something to be rid of. We have lost pride in our work and have transferred our distaste for *poor* work to work itself, to the great danger of our physical and moral health. The real psychology of work seems to be: that which one subconsciously knows one is doing badly, is drudgery. One who is accomplishing something, seeing it grow under his hands to what it was in his thought, is never discontented. The feeling of drudgery, the craving for something new, is strongest in those who are not satisfied with their daily work.

It is a mistake to think that the fact of making the article for someone else and not for one's self, is the cause of dissatisfaction. The true pleasure of work is in the doing and not in the possession afterwards, in most cases. The great evil of present industrial conditions is that the conscious purpose is for so many limited to the week's wage, that is, the end of effort is expressed in money, and the thought of the purpose that money shall serve is too subconscious to be appreciated. In some way the average wage-earner must be brought to see the end result; namely, a more comfortable, wholesome, and energy-producing life for him and his. If he strives for pleasure only, it will elude him.

No state can thrive while its citizens waste their resources of health, bodily energy, time and brain power, any more than a nation may prosper that wastes its natural resources. If the scientifically trained man is to lead the world to better things, he must secure a suitable environment, he must seek perfection of the body as a machine. But, however far eugenics may carry the race towards perfection, unless its sister science, euthenics, goes hand in hand, the race will again deteriorate in the future as surely as it has in the past. Accepted together, as guiding principles in the evolution of life, man may build for himself a temple worthy of an unconquerable soul.

THE RELATION OF PHYSICAL EDUCATION TO RACE BETTERMENT

[Abstract of Address]

D. A. SARGENT, M.D., Director Hemenway Gymnasium, Harvard University, Cambridge, Mass.

In considering a few of the causes which are generally conceded to be potent factors in the declining birth rate in most civilized countries, we soon come to the conclusion that the trouble is largely a conflict between individual instincts and abilities, and racial needs. This conflict may be variously expressed as poverty, or the inability of the individual to make headway against the many; selfishness, or the unwillingness to assume the responsibility of giving and maintaining life; indifference, preference for other occupations, or conscious abstinence from marriage through the lack of physical fitness.

Some of the reasons which are brought forward in defense of a marriage resulting in few children are unfortunately justifiable in the light of our social and economic conditions. It rests with thinkers and workers along these lines to solve this side of the problem through such movements as mothers' pensions and all such agencies which center about child welfare.

And it rests first with parents themselves, then with all teachers and preachers, to so present and exemplify the ethical significance of family life that youth will gravitate towards high and pure ideals of sex union.

It is the province of this paper to consider those physical conditions which have in the past produced and maintained superior races and to try to point out the necessity of reconstructing an age of physical idealism, so to speak, which shall help to reunite the inclinations of the individual and the claims of the race.

The old biblical idea of perpetuating the families of the Patriarchs by many "begettings" must be justified in the light of heredity, the superior races maintaining a high birth rate in spite of individual preference for more ease and leisure. There was something of this stern idea of the duty of procreation which actuated our forefathers in building up a new nation. There needs still to be a note of serious concern for the physical vigor of our nation in the pleas against "race suicide."

The present tendency of the superior races and individuals to diminish in number is contrary to the accepted theory of the "survival of the fittest," as that law is worked out under natural conditions of plant and animal life. Here it is the most perfect specimens of tribe and race, the strongest and most adaptable, who become, as is desirable, progenitors of the future race. But when applied to man, those principles of the "survival of the fittest" through the struggle for existence have been forced into the background because of man's mental, social and sympathetic development.

It is especially this growth of the human sympathies that has largely checked the action of the natural elimination of the weak, the sickly, and the deformed; and while there has accrued much benefit to the finer emotions of the race, through exercising these qualities of service and care, there have also arisen many present regrettable conditions of physical unfitness, which it has become the task of our age to eliminate.

And here again we confront the conflict between the individual and the race, for there is undeniably a contradiction between the aims of hygiene as applied to these two.

Hygiene, as applied to the individual, strives to conserve the life of even the most wretched human being, but the hygiene of the race has for its ultimate aim the elimination of those of weak constitution for the improvement of people as a whole.

Now it is the province of the physical educator not only to invigorate the individual for himself but through him to improve the

race. That is, physical education offers at least one constructive solution of the problem of race betterment. Through our biological studies, we know that there is in the human organism itself a competition and antagonism as well as a cooperation among the organs and tissues, but that these organic forces can be so influenced and harmonized by physical education as to produce a more highly perfected structure. This is especially true of the interdependence between motor or muscular exercise and efficient mental work.

It is also important to remember that the consciousness of physical disability produces a reluctancy on the part of many women towards child-bearing, while the knowledge of a large, well-developed pelvis which permits the normal birth of healthy children increases assurance and courage.

Statistics go to show that as the race advances, the head increases in size, and unless the woman's body is perfectly developed, to meet this condition, it means her immolation and the deterioration of the race.

Long experience and careful observation have shown us that physical education, in its best and broadest sense, is one of the most important factors in the betterment of the race. Through improving the structure and function of various parts of the human organism, it tends to make such functions natural and normal from the moral and mental, as well as from the physical point of view. It so harmonizes the nervous processes that super-sensitiveness is allayed by motor activity and power and efficiency are developed through habits of health.

Above all, through this individual improvement in the physical condition of men and women there results a better race of children, so that we may consider physical education an agent in our modern sciences of eugenics and eugenics.

APPARENT INCREASE IN DEGENERATIVE DISEASES.

ELMER E. RITTENHOUSE, Conservationist; President The Life Extension Institute, Inc., New York, N. Y.

We have good reason to rejoice over the wonderful progress made in recent years in the field of preventive medicine, in the spread of knowledge of right living, and in human uplift generally.

The American people, however, cannot afford to rest upon these splendid achievements nor to permit their confidence as to the future to blind them to the urgency and magnitude of the task still before

them. It is of the utmost importance that they give heed to the fact that in spite of the marvelous advance of our race, there are certain evidences of physical deterioration among our people which, if allowed to continue unchecked, promise not only to retard further progress, but possibly to turn backward the advance already made in this direction.

We find in this Conference and in similar meetings of the serious students of race betterment problems, the best of evidence of their optimism as to the future, for they would not be apt to meet for the discussion of these problems if they did not believe our civilization competent to successfully combat them.

SIGNIFICANT SIGNS

The American nation has a declining birth rate. And at the same time an increasing death rate in the later periods of life. Moreover, the chronic diseases of old age are reaching down into middle life and below and are increasing in those groups.

Aside from all other evidences of degenerative influences, these alone are surely of sufficient importance to command the thoughtful consideration of the public.

That children born today have a far better chance of reaching the age period 40-45 than had those of former generations is most gratifying. But this gain should not be permitted to obscure the fact that the chances of early death *after* that age period have materially increased in recent years—apparently because of the heavy increase in mortality from the so-called degenerative diseases of the heart, arteries, kidneys and other organs.

IGNORING A PLAIN DUTY

It is claimed, and it may be true, that these adverse tendencies are of a temporary character, that they will disappear as soon as we have had time to adjust our lives to modern conditions. But even those who adhere to this theory must concede that considerations of common humanity demand that we do our utmost through educational and other means to bring about the readjustment at the earliest possible moment.

This being our duty, why should we longer ignore the need of a definite program and a vigorous campaign to reduce the excessive morbidity and mortality from these chronic afflictions of middle life and old age which are to so large an extent preventable or postponable!

The death rate from diseases of the kidneys, liver, heart and circulatory system, as indicated by our most dependable statistics, has

nearly doubled during the past three decades. Surely the significance of this trend should not be overlooked in considering the future of our race.

A life lost from a disease of the kidneys is just as valuable to the family and to the state as a life lost from a disease of the lungs, or from typhoid fever or accident. Should we not do something to induce our people to appreciate and act upon this self-evident fact?

THE UNGUARDED CROSSING

Let us consider for a moment the example of the railway crossing.

At our most dangerous railway crossings we put up warning signs: we erect gates and place on guard a man in a tower to save the thoughtless from their own negligence.

At the crossing where run such destroyers of human life as typhoid fever, tuberculosis, diphtheria and other communicable diseases, we also have danger signals and a guard in a watch tower—the health officer and the conservationist—to protect the way-passer by educational methods, and in some instances by force, against the needless destruction of his life. The result is that the life waste at this crossing has been steadily reduced.

Here we have another dangerous crossing where hundreds of thousands of lives are destroyed annually by the degenerative diseases. But we have no warning signs here, no watch tower, no guard to protect the ignorant or negligent passer-by. And here the life waste has steadily increased.

WAITING UNTIL IT HAPPENS

Science has provided the knowledge wherewith to save a very large percentage of the victims of this crossing, but we fail to use it. Society seems concerned in these people only *after* they are maimed or killed. Doctors and ambulances are at hand, with hospitals hard by to care for the injured, and there are hearses in abundance and acres of graveyards provided for the dead.

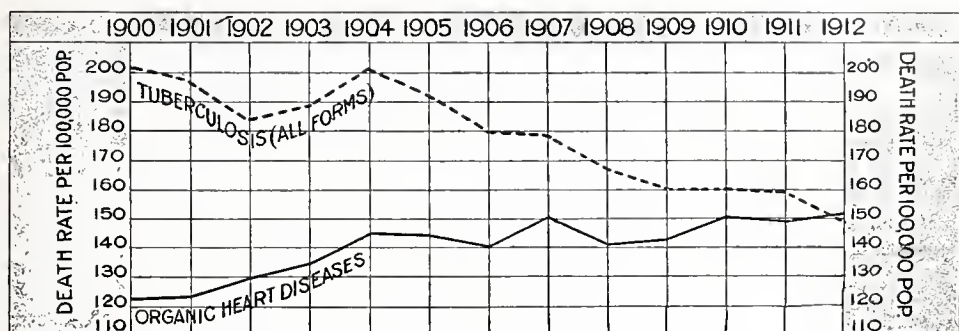
What effort, for instance, does Philadelphia make to guard the 7,300 lives that are lost annually in that city from these diseases, or Boston for its 3,000 or Detroit for its 1,300?

Is there any sound reason why our communities should not have a watch tower of education to inform these people of their danger and to teach them how to detect their approach to this deadly crossing, that they may at least have a fighting chance to avoid it?

DISREGARDING STATISTICS

We sometimes hear the belief expressed—usually by those who have not given very deep study to the statistics—that the increase

in the mortality rate from the degenerative diseases, and in the death rate at the ages where these afflictions are most prevalent, has been more apparent than real. And the interest of many of those who ad-



mit the increase, has been diverted from this subject by the assumption that the increase, whatever it may have been, was natural and to be expected.

AN ERRONEOUS THEORY

Their theory is that the increase in the death rate above age 40 is due to the saving of lives in the younger ages chiefly from communicable disease; that these lives passing into the older periods have given us not only more old people to die than we formerly had, but an increased proportion of weakened lives.

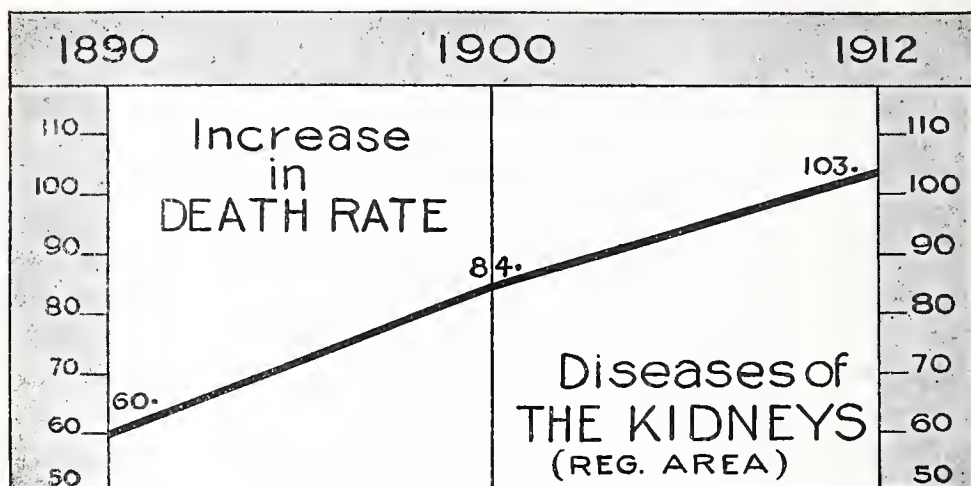
At first glance this is perhaps a natural conclusion, but the records show that there has been little or no increase in the proportion of the number surviving to the later years of life. Even if there were such an increase, it would merely lead to a correspondingly increased *number* of deaths at the later ages, and not to an increase in the death *rate* at these ages, which is the ratio between the number dying and the number living.

The saving of infant and early adult lives which have been attacked by the communicable diseases has been so recent that but a small proportion of them have passed into the older age periods. And it must also be remembered that they were not *all* left impaired; that the same influences that have reduced the death rate in the younger ages have saved a large number of strong people from *attack* by the same diseases, and also strengthened the vitality of many people, both fit and unfit, thus permitting an increase of healthful, unimpaired lives also to pass over the older age periods.

THE INCREASING DEATH RATE

During the past 33 years the mortality rate in England and Wales from diseases of the kidneys, heart, arteries, including apoplexy, shows

but a slight increase—from 272 to 273 per 100,000 population, although the Registrar-General's report shows that the mortality rate from these diseases is slightly increasing above age 65.



The death rate from the same diseases in ten American registration states of 1900 and in the same states in 1910 shows an increase from 308 to 365, or 19 per cent.

In Massachusetts the increase from these diseases has been 86 per cent since 1880. In New Jersey in the classification of organic heart, apoplexy and kidneys the increase has been 108 per cent, and in 16 American cities 94 per cent during the same period. These increases are reflected in the steady advance of the general death rate above age 40 in the same groups.

We may make all necessary allowances for the incompleteness and inaccuracy of our vital statistics, and yet it will be noted that wherever the most reliable comparisons can be had, a steady and abnormal upward trend is found in the death rate from these maladies.

But assuming for the sake of argument that there has been no increase, is there any sound reason why we should ignore the present loss of 400,000 lives annually from these preventable or deferable causes, and devote all of our time, energy and money to checking communicable disease?

THE REMEDY

Time will not permit speculation in this paper as to the causes of this high mortality. In the broad sense, we know that the remedy lies in educating our people to adopt more healthful living habits that their power of resistance to the chronic diseases may be raised and the attacks prevented or postponed to the older age periods.

We also know that the teaching of right living is one of the primary purposes of the nation-wide health movement now in progress; but we have no direct, no specific campaign to check the life waste from these non-communicable maladies. This task is a large one, but it must be undertaken and it must go on permanently if our standard of national vitality is to be raised.

HEALTH EXAMINATIONS

In the meantime, while this work in the field of prophylaxis is going on, an enormous number of lives are being needlessly destroyed because of failure to detect these preventable or postponable chronic diseases in their incipency when they may be checked or cured.

Is it not worth while, therefore, that we should also make an especial effort to teach our people the wisdom and the urgent need of going to their doctors for periodical health examinations for the purpose of heading off these and other affections?

THE RATIO AMONG POLICY-HOLDERS

When we consider that the deaths from the chronic diseases are estimated to be from 60 to 70 per cent preventable or postponable, and that the bulk of life insurance policy-holders are in the age groups where this mortality occurs, it is not surprising that the life insurance companies are becoming interested in this subject.

The record for all the companies is not available, but out of 8,211 deaths in the past three years in one of the older institutions, 3,426, or 42 per cent, were caused by these diseases.

If, by adopting right living habits and by having periodical health examinations to give the physicians a chance to detect and arrest or cure these troubles, 60 per cent of these deaths could have been postponed on an average of but one month each, there would have been a saving of 170 years of life.

If the deaths from cancer, which are largely preventable if the disease is discovered and treated in its early stages, be added to the above, 204 years of life would have been saved.

UNAWARE OF THEIR DANGER

During the same period the same company rejected 20,336 applications for insurance. Of these 8,782, or 43 per cent, were declined for physical impairments indicating these same diseases.

It is entirely safe to assume that 90 per cent, or 7,900 of these people were not aware of the impairments and of their danger, and that a vast majority of them could have been cured or serious results post-

poned for years by placing themselves under the guidance of their family physicians. As a matter of fact, many of them adopted this course and were later able to secure their insurance.

From this may be gathered at least a faint idea of the enormous number of people in our population who think they are well but who are nevertheless developing these insidious chronic diseases, and whose lives could be saved or greatly prolonged by adopting the sane and simple practice of having periodical health examinations.

This very day throughout the civilized world thousands of doctors are pronouncing the sad sentence, "No hope. Too late. If I had known of your affliction before it became so deeply seated I could have prolonged your life." And this has been going on since the dawn of medicine.

TO GET DEFINITE RESULTS'

Surely human intelligence has now reached a level where we may be justified in believing that a campaign to bring our people into closer relations with the medical profession for the purpose of preventing or at least arresting sickness will accomplish definite results.

It has been my good fortune to have had the opportunity to preach the need of adopting this very simple and sensible practice to a large constituency since I inaugurated the plan of giving policy-holders free medical examinations four years ago in a company of which I was then president.

It has been impossible to gather statistics showing the results of these efforts, but I am confident that many people have been thus induced to join the constantly increasing number who have adopted the practice of having occasional health inspections. The group of lives actually taking these examinations shows a mortality far below the expected, as has been demonstrated by Dr. E. L. Fisk.

A PRACTICAL SUGGESTION

To urge upon our people the wisdom of this course and of using the knowledge and skill of the physicians to prevent sickness and untimely death, rather than to continue the deadly habit of waiting until the case is hopeless before sending for them, is to my notion a thoroughly practical suggestion.

Here is a neglected but fruitful field. The need of having these inspections should be firmly fixed in the minds of our school children and of our people generally. Every individual and journal interested in improving the vitality of our race, and every health department should adopt the policy of constantly urging this inexpensive preventive measure. It can be done almost in a sentence. And such

action would in no way conflict with the purposes of those engaged in any field of effort for the promotion of health and longevity.

It would take but little encouragement from those who are leading in the campaign for race betterment to set in motion a sentiment that would soon establish health inspections as a common practice among our people.

I believe this will ultimately come about and that a vast amount of sickness, with its train of destitution, moral delinquency, premature death, and economic waste, will be prevented.

Discussion.

Race Degeneration

PROFESSOR MAYNARD M. METCALF

Just two points: In view of the horrors of race degeneration held up to our view, I wish to suggest one slight gleam of comfort. Few of the individuals living today will have any descendants living one thousand years from now. A thousand years is but a moment to the evolutionist or the eugenist, of course. Their character and condition is, therefore, of less moment in the question of the permanent future of the race. The implications of this fact are not so simple and obvious as they may seem at first sight, but they are worth thinking over. The conserving of those destined to persist if possible, would be the real key to the situation.

SOME SUGGESTIONS FOR A MORE RATIONAL SOLUTION OF THE TUBERCULOSIS PROBLEM IN THE UNITED STATES

S. ADOLPHUS KNOPF, M.D., Professor of Medicine, Department of Phthisiotherapy, at the New York Post-Graduate Medical School and Hospital, New York, N. Y.

The medical aspect of tuberculosis as a disease of the masses is so closely interwoven with the social aspect that it demands a special consideration for every country. In the United States the problem is quite unique and its solution unusually difficult, by reason of the vastness of its territory, the heterogeneous population, the large and constantly increasing immigration from all parts of the globe, the large colored population, the increase in birth rate among the poor and socially handicapped, and the decrease among the well-to-do and those physically, mentally, and morally better equipped; its manifold industries, the greatly diversified housing conditions of the masses, and

—last but not least—the difference in the sanitary laws of the various states and the absence of a Federal Department of Health.

The subject, as you must see at a glance, is so vast that it would be folly to attempt to treat it in the short space of time allotted to me, or even in a single paper. All I can do, as the title of my paper indicates, is merely to offer some suggestions tending toward a more rational solution of the more important phases of the tuberculosis problem, and thus work for the object of this national conference, *i. e.*, race betterment.

At the bottom of the great ravages due to tuberculosis lie the predisposing factors, and it is in regard to these that we must begin to act more rationally than we have ever done before, if we wish to make any impression at all on our morbidity and mortality statistics.

A body of scientific men and women, like those I have the honor to address at this moment, are aware that it would be inaccurate to deny the possibility of direct maternal transmission of the tubercle bacillus, but the occurrence is relatively rare and uncertain. What we do know is that nearly every child born of tuberculous parents, father or mother, but particularly if it is the mother, brings to this world as a hereditary gift a physiological poverty which predisposes the child very strongly to tuberculosis and other infectious diseases. The reason why such a child becomes very frequently tuberculous can be explained by the many opportunities for post-natal infection from the tuberculous parents, particularly in infancy and early childhood.

To withhold the marriage certificate from the acutely tuberculous individual is an excellent measure and of incalculable educational value, but alas does not prevent a tuberculous procreation. I know I may be called revolutionary, but I state right at the beginning of my address that every tuberculous adult, male or female, married or at a marriageable age, should be impressed with the fact that it is well-nigh a criminal offense to bring children into the world before they themselves have been cured of the disease. I have said before, and I am willing to say again, that I for one am willing to take the responsibility before my God and any court of justice for every time that I have prevented tuberculous parents from bringing children into the world. I believe the most widespread education in this regard cannot be otherwise than productive of great good to a very large number of people.

By this widespread education I mean the instruction of the legislature, of physicians, and the people at large. I would plead with the legislatures to legalize the operation of vasectomy on any tuberculous male patient who is willing to undergo this operation. I would make the operation obligatory for any one who is actually tuberculous and

who insists upon marrying. I would advise the ligation of the Fallopian tubes for all female patients in the same situation, or similarly afflicted. If an acutely ill tuberculous individual procreates wilfully in spite of the physician's warning, I would advise also in this instance that sterilization be required by law. I would teach even slightly affected tuberculous parents or married people, not only all the details of prophylaxis, so that they may not infect each other, their children, or others, but I should make it a sacred duty to teach them also how not to procreate while either one of them is acutely afflicted with the disease. To this end I should go so far as to urge parents, even when they feel themselves apparently well and strong and recovered from a tuberculous lesion, not to decide on having a child without both of them submitting themselves to a careful physical examination. Only when shown to be in really good health by a careful examination by a competent practitioner should they feel that they have a right to procreate a race.

Tuberculous parents not willing to listen to or heed this warning should be told of the great danger that exists of a tuberculous mother losing all possible chances of recovery, because pregnancy is sure to make her tuberculous condition many times worse, and that a child of a tuberculous issue very rarely survives any length of time. The majority of such children die in infancy, but usually not before they have caused the parents a great deal of sorrow, anxiety, and financial sacrifice.

It is very difficult to get accurate statistics of the morbidity and mortality of tuberculosis in the pre-school age, but we can get some idea of it by referring to the prevalence of tuberculosis in school children. Estimating the proportion of tuberculosis among the 20,000,000 children attending our public schools, as low as only 3 per cent would make 600,000 children who are at this time acutely afflicted with tuberculosis in one form or another.

The next factor which in my humble opinion is responsible for the acquisition of a strong predisposition to tuberculosis in many children is our system of education. Splendid as it is in many respects, in numerous instances it lacks elements which should tend to make our children mentally, physically, and morally strong. I treated this subject quite at length in my last year's address before the International Congress on School Hygiene in Buffalo,* and so I will only mention a few of my conclusions here: Our school buildings should be ideal as far as construction, sanitation, and particularly ventilation are con-

* "The Physical, Mental and Moral Vigor of Our School Children." *New York Medical Journal*, Dec. 6th and 13th, 1913.

cerned. The more open air schools we can have, the more outdoor instruction in kindergartens, public schools, and in colleges, the greater will be the physical vigor and strength of the pupils. Inculcate the love for open air life into the child at school and it will become a fresh air apostle at home. The school curriculum should be so arranged that the mental strain should not react unfavorably on the physical and moral constitution of the child, and last but not least, if we wish to prevent tuberculosis in children the open air school, or at least the open air class room, must become the rule, the indoor school or indoor classroom the exception.

The next predisposing factor which we have to consider as responsible for tuberculosis, particularly in the adolescent, is child labor. There is, I believe, no diversity of opinion among physicians, sanitarians, sociologists, and philanthropists about child labor being one of the greatest curses which can befall a nation. It stunts not only the physical growth of the future generation but also the mental and soul development of the child. Personally I hold child labor (not useful, helpful, and wholesome child occupation, but labor) such as is carried on today in factories, workshops, canneries, fields, mines, and alas also in not a few instances at home, responsible for the so frequent development of tuberculosis in our young men and women.

The mortality from tuberculosis is greatest between the ages of 18 and 35, and in many instances the weakened constitution of the adolescent can not resist the very prevalent sources of tuberculous infection in factory and workshop, and the result is the invasion of the tubercle bacillus. The most rigorous anti-child labor laws most strictly enforced will be one of the most rational means to help us in the solution of the tuberculosis problem in this country.

What is the next most important factor predisposing to tuberculosis after the hereditary tendency, the unsanitary school life, and child labor? It is bad housing conditions, and by this I mean not only unsanitary tenements where the masses live and sleep, but also unsanitary conditions in factories, shops, offices, and stores, where the masses work.

The manner in which many of the well-to-do families house their servants in large cities is, I believe, often responsible for the frequency of tuberculosis among this class of workers, and in passing let me say that the predisposing factors of tuberculosis lurk in many of the homes of the well-to-do because the houses in which they live are not constructed with a view to giving the maximum amount of air and light to the individual by day and by night.

In my own city of Greater New York we have still thousands of dark bedrooms where direct light and air never enter, and every tuber-

culosis worker will tell you that it is in houses where the sleeping quarters are the worst that tuberculosis is uppermost. Good tenement house laws when well enforced have done a great deal in New York and other cities, but not by any means enough. A much more rational conception of house construction so as to give opportunities to the masses to rent a well-lighted and well-aired home and a space of the roof garden which should exist on top of every tenement house, will be necessary if we wish to combat the predisposition to tuberculosis which comes from congestion and bad, unsanitary housing.

It has always been a mystery to me why the thousands of acres of roofs of tenement houses, apartment houses, and public buildings are not utilized for the purpose of giving the inhabitants of such houses more outdoor life during the day, and where feasible, even sleeping accommodations at night. Those of us who have made tuberculosis a study know what an important preventive factor outdoor sleeping is, and it has been sufficiently demonstrated that with proper precautions this can be done in all climes and all kinds of weather. Our federal and municipal authorities should set an example by the utilization of the roofs at their disposal for places where the workers in the offices may spend their time allowed them for rest or recreation between the hours of labor.

Not only wise state and city legislation but philanthropy also must come to the rescue by building houses for the masses such as will deserve the name of human habitations, giving the occupants an abundance of light, air, and sunshine.

Before I speak of factories and workshops for the adult, let me return once more to the children and remind you here that our orphan asylums and often even our private boarding schools need the greatest and most careful supervision to assure sanitary sleeping and living quarters to the inmates.

We next come to the cheap hotels and lodging houses. Only those who have made a study of the cheap lodging houses in large cities can possibly have an idea of what a fruitful source these so-called habitations are for acquiring tuberculosis, and when not the disease itself, surely a very strong predisposition thereto. Those who desire more complete information on this subject I would like to refer to a paper recently read by Mr. Chas. B. Barnes, of the Russell Sage Foundation, before our Tuberculosis Clinics Association, entitled "Tuberculosis among Homeless Men."*

We should do away with the cheap lodging houses and cheap hotels by substituting for them a gradual development of sanitarily constructed municipal hotels and lodging houses. Our Mills hotels in

* *Journal of the Outdoor Life*, April, 1914.

New York City give an example of how practical philanthropy can also aid in the solution of this problem. In the meantime the owners of the cheap lodging houses should be forced to make these houses sanitarily safe, and any individual who is discovered coughing and expectorating should not be admitted or readmitted as a guest, but should be referred to a tuberculosis dispensary or hospital for diagnosis, proper care, and treatment.

The proper ventilating and lighting and the necessity of excluding the actively ill tuberculous patient who constitutes a menace to his fellow-men and to himself by remaining in the overcrowded factory, workshop, store, or office have been so often discussed that I hardly think they need reiterating. All I would wish to say is that a little propaganda for better ventilation, ample wash and toilet facilities in every place where the masses work, would perhaps be more effective when coming from within than coming from without. The workers should claim their just right concerning this and the employer should realize that efficiency is increased by better air, more light, more cleanliness, and sufficient rest and recreation. An examination for tuberculosis prior to admitting an individual into a workroom or factory where he comes in close contact with others would seem to be the best safeguard to others and perhaps the surest way to prevent the individual himself from becoming seriously ill. It would be well if our municipal and federal governments would take the lead in this matter and have every municipal employee and every employee in post-offices or other federal departments examined for tuberculosis. The offices where these men and women work should be models of sanitation and proper ventilation so that the dangers of contracting a predisposition to tuberculosis should be reduced to a minimum.

Bad housing, overcrowding, and congestion, which predispose to tuberculosis and facilitate the spread of the disease if a center of infection is present, while most frequent in congested cities, are, however, not confined to the city alone. Although our farmers and people living in the country and in small towns and villages usually have an abundance of good air outside their habitations, they very rarely make good use of it. The sleeping quarters in many farmers' families are as bad as those in large cities, and to see the windows nailed down and the shutters fast closed is not an unusual sight in many a farmer's house. The best room is used for parlor and the worst for sitting and bedrooms.

In speaking of rural hygiene, I must return once more to the children and make a plea for better and more sanitary school houses in our country districts. In some sections of the country, almost any old barn or dilapidated building is considered good enough for a school

house. Some pretty energetic propaganda for reform is needed in these districts. Rural hygiene is as essential as city hygiene if we wish to combat tuberculosis with any degree of success.

Millions of people in this country spend hours and even days in travel; hence the sanitary condition of our public conveyances, railroads, street cars, steamers, river boats, and ferries must be considered when we speak of the housing conditions of the masses. I have dwelt at length on this subject in a contribution on "The Hygiene of Public Conveyances,"* which I read at the New York Academy of Medicine at the request of the Public Health Educational Committee a few years ago, so I will give it only a mention here. Anti-spitting ordinances with the request to hold the hand before one's mouth when coughing, the avoidance of overcrowding, proper ventilation and without overheating, a frequent disinfection of all street-, railroad-, and Pullman cars, cabins, steamboats, etc., are the only way to minimize the dangers from tuberculosis and other infectious diseases of the respiratory organs for the traveling public.

Our colored population and the districts where many Chinese and Japanese live must receive special consideration under the subject of housing. It is well known that our colored population is much more prone to contract tuberculosis and that the morbidity and mortality is much greater than it was before their liberation from slavery. Education and hygiene is essential for the colored masses and perhaps more so than for our white population. The housing conditions of the colored people are as a rule a great deal worse than those of the whites with similar earning capacity.

I do not think that the colored race is really more predisposed to tuberculosis from any other reason than their mode of living. As a rule they sleep in overcrowded quarters; their home hygiene is deplorable, their love for pleasure and recreation makes them irregular in their meals and hours of sleep, and last but not least, very often having no thought of tomorrow, they live in abject poverty. Education by lectures, distribution of literature, and tuberculosis exhibitions in the districts of colored people will doubtlessly do a great deal of good, but social service, personal visits by volunteer or paid workers in behalf of the anti-tuberculosis cause will alone be able to make much impression on the fearful prevalence of tuberculosis among the colored race.

In view of the existing race prejudice or antipathy it would be better for colored people to unite and by cooperation with philanthropically inclined people of their own and the white race to build sanitary tenement houses in segregated districts, than to try to crowd

* *Medical Record*, New York, March 18, 1911.

into the already over congested districts inhabited by the poorer classes of the white population.

Much could be said here of the deplorable condition in which our Asiatic friends, the Chinese and Japanese, live, as for example on the Pacific Coast. I have visited the lodging houses of nearly all nations but never have I seen the equal in regard to congestion and uncleanness to the so-called Japanese boarding houses and Chinese dens. This becomes a matter for the serious consideration of the local sanitary authorities when one considers the frequency of tuberculosis among the Chinese and Japanese and how many of them act as servants in the households of American families.

Our American Indians, particularly those living on reservations, are becoming more and more frequently subject to tuberculosis. This alarming prevalence of tuberculosis among the unfortunate Indians has resulted in the appointment of a federal commission, composed of Senator Robinson, of Arkansas, Senator Charles E. Townsend, Representatives J. H. Stephens, of Mississippi, and Charles H. Burke, of South Dakota, which has recently completed an investigation. I quote from this report:

"For the fiscal year ending June 30th, 1912, out of 190,791 Indians reported on, approximately 26,500 were estimated to have tuberculosis. Thirty-two per cent of the whole number of deaths reported from the various reservations was alleged to be due to tuberculosis. A comparison of the death rate between Indians and whites from tuberculosis discloses that thirty-two per cent of the whole number of deaths reported from the various reservations was due to tuberculosis."

The explanation for this fearful situation is to be found in the habits and manners of living of these "civilized" Indians as compared with their mode of life prior to their being placed on the reservations. Thus, very justly, the report states: "Formerly the Indians lived in tepees, engaged in out-of-door sports and earned their living by fishing, hunting, and trading. Contact with the white man has worked a radical change in them. They have been collected on reservations, their hunting grounds converted into farms and pastures, and every energy exhausted to change a naturally nomadic race into an agricultural people. The substitution of insanitary houses for tepees has resulted in the adoption of habits of living peculiarly conducive to the spread of tuberculosis. In many Indians' homes sanitary conditions are frightful.

"A comprehensive remedy can be afforded by the establishment of camp hospitals," says the report, "in the nature of temporary sanatoria for the treatment of tuberculous Indians on the reservations

where the disease is known to be common. These hospitals should be temporary and inexpensive and provided with necessary apparatus and experienced nurses and physicians.”

The report recommends a vigorous campaign throughout the Indian country of systematic instruction in sanitary habits and methods of living looking toward the making and enforcement of reasonable sanitary regulations.

I have only a few suggestions to add to those of the Commission, namely, first, that whenever possible a doctor of their own race (not a “medicine man”), educated and licensed as a regular physician, should be put in charge of anti-tuberculosis work among the Indians, or at least be an assistant to the government physician. Thus, early diagnosis and timely treatment in those afflicted would be secured. As the best possible prophylactic measure I would recommend outdoor sleeping with the aid of cheaply constructed lean-tos of the King-Loomis type. To all this should of course be added proper nutrition and the prohibition of the sale of alcohol on reservations or anywhere else to our Indian fellow-citizens. It goes without saying that the schools for the Indian children should be open-air schools, that cleanliness and the elementaries of general hygiene with the view to preventing tuberculosis and other infectious preventable diseases should be taught to all children according to their age and understanding.

The mortality of tuberculosis in prisons and reformatories is about three times as high as that of the population outside of our penal or reform institutions. What are the factors responsible for this condition? First of all, I believe that many a young man or woman who is convicted of crime comes to the prison with a strong predisposition if not already in a stage of incipient tuberculosis. They have been raised in an atmosphere of darkness with bad personal or general hygiene, underfeeding and unsanitary housing, not infrequently combined with intemperance and other evil, demoralizing influences. When such an individual enters a prison of the kind which is alas now in the majority, a five-year sentence or more is equivalent to a death sentence. I hardly need to say that society has no right to punish as severely as that.

Segregation of the tuberculous prisoners from the non-tuberculous should be established and outdoor or at least healthful indoor occupation provided under proper sanitary conditions. If cell life must be led, let it be in cells well aired and properly heated in winter, with the removal as far as possible of all the depressing psychological influences, which are so helpful in the development of tuberculosis.

This is not a paper on prison reform and still if we wish to eradicate tuberculosis our prison system must be reformed. In view of the

possibilities of training and supervision in a prison, the tuberculosis death rate should be less there than anywhere else. I treated this particular phase of the tuberculosis situation in full in an address before the National Prison Association some years ago.* My conclusions today are the same as then. To discharge a tuberculous prisoner without his being cured or without being assured that he will not constitute a center of infection in his family or among his friends or fellow-workers is criminal and the pardon of a tuberculous prisoner without the assurance of his being well taken care of under sanitary conditions is equally criminal. The tuberculous prisoner should be treated like any other tuberculous patient, and the more outdoor, that is to say agricultural or horticultural, work that all prisoners can do under proper supervision, the fewer will develop tuberculosis, and the greater will be the number of those restored to happy and useful membership in society.

There is one more source of predisposition which I believe has been greatly underestimated. I refer to the susceptibility to tuberculosis which arises so frequently in patients, and particularly in poor patients when discharged from a general hospital. Although cured from the acute non-tuberculous disease or affliction for which they have had to submit to a surgical operation, their general constitution is, as a rule, so much below par and their vitality so lowered at the time when they are obliged to leave the general hospital in order to make room for new acute cases, that the unfortunate convalescents not infrequently fall a prey to the multiple sources of infection which they encounter in their daily lives. To have a sufficient number of convalescent homes where the patients discharged from general hospitals, including also the mothers discharged from the maternity hospitals, can remain long enough for their physiological vigor and earning capacity to be re-established, is the only way to overcome this source of predisposition to tuberculosis.

We will next consider the predisposition caused by malnutrition during infancy, childhood, adolescence, and in adult life. I am not going to enter here into the subject of the high cost of living, for that is a matter for statesmen to regulate. All I wish to say is that personally I do not believe there is any necessity for the cost of living being so high, because we should not have a multitude of men who must idle away their years in military service at a cost of billions of dollars to the producers while they themselves produce nothing.

To return to my calling of a physician, I claim that underfeeding

* "The Tuberculosis Problem in Prisons and Reformatories," *New York Medical Journal*, Nov. 17, 1906.

of infants is due to three sources. First of all, there are not enough true mothers, that is to say mothers willing to give their own breasts to the child for its principal source of food during early life. It is well known that if a mother is so unfortunate as not to have enough milk for the child, partial breast feeding is better than no breast feeding at all. Again, it has been shown that the disuse of the mammary glands has a tendency to manifest itself in the inability to nurse when the female offspring becomes in turn a mother; and the reverse is equally true—the baby girl raised on mother milk, or even only partially breast-fed will be able to nurse her child in turn. The breast-fed baby will nearly always be stronger and better able to resist the invasion of tuberculosis than the artificially fed baby.

The next cause of malnutrition in infancy and early childhood is ignorance. Many mothers do not know how to feed the child and it is not always poverty or the lack of sufficient food, but the ignorance of how to feed the child properly which results in malnutrition. Education, best accomplished by the personal visits of competent nurses under the direction of a bureau of child hygiene, which should be a part of every modern health board, will alone combat this fruitful source of malnutrition. With the underfed child at school the cause may in some instances be due to ignorance, but here in most cases it is poverty that we find as the real cause. When the predisposition to tuberculosis caused by the physical reasons of malnutrition and lack of development, due to bad teeth, adenoids, large tonsils, and nasal obstruction, is removed, we still find some of these children not improving because they are underfed.

I am willing to say that I am a strong advocate of school lunches, and this by reason of a careful investigation carried on in New York where over 15 per cent of children attending the public schools were found to be suffering from malnutrition. In 10 per cent of cases investigated the mother was a wage-earner and not at home to prepare the noon meal, and of children taking school lunches last year 75 per cent were from families having incomes below the living wage. The children are given for the small amount of three cents, rice and tomato soup and bread, or pea soup and bread, or lentils and rice and bread, or for one more cent the child may buy either cocoa, sandwiches or cooked fruit. And what was the result? It was found that the children taking the lunches had gained in weight three times as much as those not taking them and an immediate marked improvement in school work resulted in those who were formerly underfed. Here is a work for the municipalities and philanthropists who wish to help in the eradication of this source of strong predisposition to tuberculosis.

The malnutrition in the adults, or may I use the expression, the

underfeeding of the masses due to increased cost of living which, as already stated, is a matter for governments and statesmen, can nevertheless be ameliorated even before disarmament and regulating supply and demand of labor and the legislative control of prices of agricultural products, *i. e.*, the prevention of trusts in foodstuffs.

A great step in advance can, I believe, be made and the condition of the masses considerably bettered, first, by a more widespread education of the principles of scientific and economic housekeeping and cooking. There is a great deal of valuable foodstuffs wasted in the houses of the poor by mere ignorance. Cooking should become a popular science, and the municipality or the philanthropist who will establish a cooking school where practical, economic, yet tasteful cooking will be taught, will bestow one of the greatest benefits on humanity.

An equally interesting and beneficent institution for municipalities or philanthropists to establish in view of combating the effects of underfeeding or bad feeding, which paves the way to tuberculosis, is what is known in Germany under the name of *Volksküchen*, "a people's kitchen," where good and substantial food is prepared and sold at cost to the masses. I have tasted meals thus prepared and can vouch for their wholesomeness, tastefulness, nutritious quality, and last, but not least, their cheapness. A few of such kitchens in every one of our large cities will be of incalculable benefit to the physical and moral well-being of the masses.

Alcoholism, that is to say, the excessive and injudicious use of alcoholic beverages, is to my mind one of the strongest predisposing factors in the adult. It not only renders the individual more susceptible to the invasion of the tubercle bacilli, but also makes the cure much more difficult. In my service at the Riverside Hospital-Sanatorium on North Brother Island a large number of patients are alcoholics and the prognosis in such cases is almost invariably unfavorable. I regret to state here that I have had in my service as many as 70 per cent of tuberculous patients who confessed the excessive use of alcohol prior to contracting tuberculosis. I cannot, of course, enter here into the discussion of the alcoholic problem. All I can say is that education, wise legislation, rational temperance movements, better food and better cooking, and popular healthful engagements for the masses, are to my mind the most rational means to combat the alcoholic evil.

Venereal disease also predisposes to tuberculosis in a measure. My own conception of how to combat this evil I expressed in the oration on medicine which I had the honor to deliver before the Illinois State Medical Society two years ago. I must refer my readers to this article, "Some Modern Medico-Sociologic Conceptions of the Alcohol,

Venereal Diseases, and Tuberculosis Problems.”* All I can do here is to include syphilis and gonorrhea into the three great afflictions of the masses—alcohol, venereal diseases, and tuberculosis—which are more prevalent in cities than in the country, and all of which are in no small degree the result of congestion and the many unwholesome features of city life. I venture to say that all these diseases, and particularly tuberculosis, will be decreased by a return to the farm. If our statesmen can help to make farming more attractive and profitable, country life, particularly for young people, less monotonous and more enjoyable, a great step toward the decrease in the morbidity and mortality of the above mentioned diseases and a consequent betterment of the race will surely be attained:

We come now to the direct causes of tuberculosis. First, contaminated food substances, *i. e.*, contaminated by the tubercle bacillus. We have tuberculous meat derived from tuberculous cattle and hogs, and have tuberculous milk derived from tuberculous cows. There would be no difficulty in combating bovine tuberculosis and tuberculosis in hogs if we had uniform laws for dealing with this disease and could prevent the sale of beef or pork derived from tuberculous animals. As it is, one state in the Union has excellent bovine laws, has all cattle tested by tuberculin, destroys the tuberculous cattle, and compensates the farmers. A neighboring state has poor or no bovine laws at all, or they are not enforced. The result is of course danger not only to the inhabitants of the states with poor bovine laws, but to all those who may sojourn temporarily therein. The same holds good of pork and still more of milk. Testing all cattle with tuberculin and weeding out the tuberculous ones, the most careful inspection of all meat at the abattoirs no matter from what source, the prohibition of the sale of milk except from tuberculin tested cows, or the universal careful scientific and not merely commercial sterilization of all milk, are up to date our only means to avoid contracting tuberculosis from the ingestion of food substances.

When one considers that nearly 10 per cent of all tuberculosis in children is due to the bovine type of the tubercle bacillus, it would seem that the time for the federal authorities to take up this question has come.

The most important source of infection of tuberculosis is that from man to man through the process of inhalation and close personal contact. As most frequent of all phases we must consider what is known as family infection. The bacillus, being found in abundance in the secretion of the tuberculous individual, may be inhaled with the

* *American Practitioner*, February, March, and April, 1913.

dust laden with dry pulverized tuberculous sputum. It may be transmitted with the kiss of the mother to the child, from husband to wife, or wife to husband, or from a tuberculous child to a healthy child, Not infrequently children in private homes or institutions become infected by tuberculous nurses or maids. The greatest vigilance on the part of family or institution physician is necessary to overcome this danger of infection to the children under their care.

In close and congested quarters there arises in addition the danger from droplet infection. Small particles of saliva containing the tuberculous germs are expelled during the cough or during loud and excited speaking. Constant exposure to the contact of these droplets may lead to infection.

The general and principal remedy for this, the greatest of all sources of infection (sputum and droplet infection) from man to man, can be expressed in one little sentence: there should not be any uncared-for tuberculous individual. Being cared for means of course that the patient is submitted to the hygienic and dietetic treatment, and constantly watched and supervised so that infecting others becomes virtually an impossibility. If every tuberculous case of today could be treated and watched, he could not infect anybody else nor could the room he occupies or the house he lives in become a source of danger to others who inhabit it after him. Thorough disinfection of rooms and house would follow his removal and tuberculosis would no longer be a house disease.

An annual, or better yet semi-annual, examination of every individual in every community would lead to the early discovery of tuberculosis in any member of the community; his being taken care of at the right time and in the right place would eliminate him as a danger to the family, and tuberculosis would no longer be a family disease.

What must be done in order to attain this goal is self-evident. Clinical facilities for the recognition of tuberculosis in every community arranged by physicians in cooperation with the municipal authorities; a multiplication of such institutions as dispensaries, serving as centers or clearing houses to distribute the cases; preventoria to which to send suspected cases; sanatoria for the curable cases, and hospital-sanatoria for the seemingly hopeless ones for isolation; and where it is possible sanatorium treatment at home—these are our most efficacious weapons, up to this date, for solving this phase of the tuberculosis problem.

But to send the tuberculous patient, particularly a laborer or a working girl or woman, for a six months' or even a year's sojourn to a sanatorium is not enough to make the cure lasting; it will often demand more time. Hence, agricultural, horticultural, and general

industrial colonies should be attached to our public sanatoria. It is here where the patient has the best possible chance, by graded labor still under medical supervision, to make his cure a lasting one.

The United States of America offers a welcome to all the people of the world and an opportunity to become citizens of this Republic. As a result, this country stands unique as the land with the greatest number of immigrants arriving annually in its ports. That among these many are tuberculous and many more are strongly predisposed to the disease is evident and well known. The medical problems of immigration are so important a subject to this country that a year ago it was made the subject of discussion at the annual meeting of the American Academy of Medicine in Atlantic City.* The difficulty of diagnosing at a glance a tuberculous invalid in the first or second stage was there brought out. It often takes an expert a half or three-quarters of an hour before he can arrive at a definite conclusion, and that after a careful examination in the quiet of his office. The relatively small number of examining physicians at Ellis Island, for example, can devote but very few minutes to each of the thousands of immigrants who pass before them weekly for inspection. The excellent appearance of some tuberculous immigrants, because of a ten days' voyage, invigorating sea air, good food and rest, has been to my mind in many instances the reason of the non-discovery of invalids in quite advanced stages. When they have been admitted to this country, a few weeks of hard work in the ditches or in the sweat shops, with nights spent in overcrowded tenements or unclean or crowded lodging houses, usually suffice to bring about an exacerbation of the disease. The strain, the struggle for life, the new environments, the unaccustomed food, and perhaps also some nostalgia and disappointment, likewise help to turn, in a very short time, an incipient case into an invalid with open tuberculosis, and thus a new center of infection is formed. All this accounts for the great prevalence of tuberculosis among the laboring classes who have come to us from foreign shores only relatively recently. A goodly number of them return to their native land, particularly the Italians, when they realize that their disease does not permit them to struggle as they must if they wish to remain here. I have been told that there are villages in Italy where tuberculosis has become most prevalent because of the return of those emigrants and because their methods of life result in infection of others.

*"Medical Problems of Immigration," being the papers and their discussion presented at the XXXVII Annual Meeting of the American Academy of Medicine, held at Atlantic City, June 1, 1912. Easton, Pa., American Acad. of Med. Press, 1913.

Some return voluntarily to their native homes, but you perhaps are not aware that we have a deportation law* which, as a good American I am sorry to admit, seems unnecessarily harsh and unjustified, founded as it is on an unscientific basis. It is to the effect that any immigrant who has become a public charge in a hospital or other institution and is found to be tuberculous, can be deported even after a residence of three years if in the opinion of the examining physician he had contracted the disease prior to his landing on these shores. During the year of 1911, about 1,500 of such tuberculous aliens were referred to the State Board of Charities for deportation. On the strength of this law the deportation is done at state expense.

With all due respect to the framers of this law, I believe it absolutely impossible for the most skilled diagnostician, upon examination of a tuberculous chest, to state the duration of the disease with even approximate certainty. A declaration that an individual had tuberculosis for a definite period of time, based on a physical examination or even on the history given by the patient, must necessarily be guesswork. I know of a case of deportation which was declared legal upon the statement of a young physician to whom a tuberculous patient had admitted that he had a cough a little less than three years ago, prior to his coming to this country.

How many thousands of us have a latent tuberculosis which has never been discovered and which may never cause us any trouble if we continue to live carefully and hygienically! Should we, however, be submitted suddenly to a life of hard physical struggle, be transported into unhygienic environments, be underfed and badly housed, the development of the tuberculous trouble would be almost certain to take place, and in a much shorter time than three years. One must have witnessed such a deportation in order to comprehend its meaning, particularly when one is not at all certain that the case might not be one which developed right here because of hard work and privation.

And now, to the most important question of all: what can be done to prevent tuberculous invalids, likely to become a burden to the community, from entering the United States, only perhaps to be deported after a sojourn of one, two, or three years? Tuberculosis must be considered a world problem, a problem for every civilized nation. Let European governments understand that they must take care of their own tuberculous people as we take care of ours, and that in the end, by united efforts, it may be possible to conquer the white plague in all countries.

* Immigration Act of Feb. 20, 1907.

To ascertain his freedom from tuberculosis every prospective emigrant should be examined by two competent medical men, one appointed by his home government and one by the steamship company which is to transport him to this country. A certificate showing freedom from tuberculosis, signed by these two medical men, should be in the possession of every emigrant allowed to come to these shores. An individual discovered to be afflicted with this disease should be returned to the care of the authorities of the city or village from which he came with the diagnosis and recommendation for treatment. Exceptions can and should be made in the case of an individual with ample means who is simply visiting, or seeking to recuperate his health by a change of climate, or desirous of entering an American sanatorium for treatment. To avoid misuse or fraudulent use of the physician's certificate, a photograph should be taken at the time of the examination in the home port and attached to the certificate. Or, since a photograph could be removed and another one substituted on the certificate, I even go so far as to suggest that it would be well to have the finger-print taken for identification. This is the most accurate and scientific method known for such purposes.

The laws relating to deportation should be changed to the effect that if the holder of any such certificate, or any immigrant develops tuberculosis within six months to one year from the date of his arrival here and becomes a charge to the community, he shall be deported to the port whence he came. The expenses for this deportation should be borne by the steamship company who brought the immigrant to our shores and not by the State Board of Charities. Whether European governments should desire to keep doubtful cases under observation a few weeks in cooperation with the steamship companies in order to avoid possible mistakes in diagnosis, or increase the examining boards by one or two more experienced diagnosticians, is a matter for the foreign governments to decide. There is no question but that the more careful these examinations are at the foreign ports, the fewer the cases of deportation that will ensue.

The suggestion has been made that physicians of the United States Public Health Service should be stationed at the important points of departure in Europe so that each emigrant can be thoroughly examined, and those entitled to a clean bill of health be allowed to take passage. I question whether the international law would sanction such procedure. Secondly, there are too many minor points from which emigrants could take passage and escape the United States government physician's examination. It would be of greater value for foreign governments and steamship companies to make it known that if a man expects to stay in the United States, he must not become a

public charge; that he must be physically, mentally, and morally sound. With such a policy and the additional examination in the manner above outlined, the United States government will be less burdened with the care of tuberculous aliens who, uncared-for, are a constant menace to the community.

An interesting suggestion in relation to this subject was made at the recent International Tuberculosis Congress in Rome by Dr. Antonio Stella, of New York. It was to the effect that every emigrant should be insured against tuberculosis, the cost of insurance to be added to the price of the steamship ticket, the policy entitling the bearer to return transportation and free treatment in a sanatorium, in the event of his contracting tuberculosis within a specified time. This suggestion was presented in the form of a resolution, which was unanimously adopted, but whether or not it will result in any immediate or definite action I am not prepared to say.

The suggestion of Doctor Stella leads me to the conclusion of my paper, namely, that it is my firm conviction that unless we have a general insurance against accidents, old age, and disease, including tuberculosis, for every individual earning less than \$1,200 a year, the tuberculosis problem will never be solved. I realize, of course, that there are other factors which must be considered as contributory toward the solution of the tuberculosis problem. I refer, of course, to the betterment of the social conditions of the masses in general. That this may occur soon is our devout prayer, but for the present let us bear in mind that we still lose annually in the United States well-nigh 200,000 lives from tuberculosis and that we have among us eight times as many tuberculous individuals in the various stages of invalidism. I venture to say that not one-tenth of these 1,600,000 are under proper care in institutions or at home.

Yet to prevent infection and to assure a cure, the tuberculous individual must be under careful medical supervision. Because of the widespread propaganda of enlightenment during recent years regarding general hygiene, prevention of tuberculosis, and the importance of the early discovery of the disease, a great deal of good has been accomplished and I urge continuation and increase of proper propaganda. Education has done a great deal already, and the well-to-do classes particularly now frequently seek timely aid; but not so the poor man who knows that very often the discovery of his disease means the loss of his job. The result is that he will hide his condition as long as possible, infecting in the meantime a goodly number of his fellow-beings. If, on the other hand, he could know that by reason of his insurance he could enter a sanatorium the moment that his disease was discovered and receive the best possible chance of being

cured, he would not hesitate to be examined. Of course, provision for the maintenance of his family in the event of his being the only bread winner, should be a part of his insurance policy.

In summarizing, let me repeat then that in spite of all our efforts we are, as just stated, still losing about 200,000 people annually from tuberculosis in the United States. Of these, I venture to say, 50,000 are tuberculous children. Estimating the average duration of life of the 50,000 children who die annually from tuberculosis in the United States at about seven and one-half years, and figuring the cost to parents and the community for each life as only \$200 per annum, the financial loss thus represented is \$75,000,000. These children have died before they have been able to give any return to their parents and the community. What a useless sacrifice of life and of money! How much needless sorrow and heartaches caused to parents!

Besides all this, many a tuberculous mother has had her life shortened because she bore one of these children. According to the report of the Commissioner of Education, there are at this time about 20,000,000 children attending public schools in the United States. Placing the proportion of tuberculosis among them as low as only three per cent, would make 600,000 children afflicted with tuberculosis who are at this time in urgent need of open-air instruction or sanatorium treatment. According to available statistics, we can at present provide instruction in open-air classes for about 2,000 tuberculous children. The anemic, the nervous, and the children suffering from cardiac diseases, who are in equally great need of outdoor instruction, are not included in the three per cent.

The 150,000 adults who die annually of tuberculosis have at the average been ill and incapacitated for work for at least two years, and figuring their cost to the commonwealth (either to municipality or individual family) at only \$1,000 per year, would mean \$300,000,000 uselessly spent in caring for people afflicted with a disease that might have been prevented and cured. Of these 150,000 adults, a large number have been married and in many instances leave either widows or orphans depending upon public support. The annual maintenance of these widows and orphans must, of course, also run into the millions. We have thus an annual expenditure of well-nigh \$400,000,000. Yet this by no means represents all the actual loss to the community from tuberculosis. Our social economists tell us that between the ages of 16 and 45 every adult life with an average earning capacity represents an asset of \$5,000 to the community. Now, as two-thirds of all deaths from tuberculosis in adults occur between these ages, we have an additional loss of \$500,000,000 to the community. Thus, the actual direct and indirect loss caused by death from tuberculosis in the

United States amounts annually to something like \$900,000,000, and this amount we spend on a preventable and curable disease!

We must also bear in mind the fact that we have at least eight times 150,000 tuberculous adults, for it is well known that for every individual who dies of tuberculosis there are eight living with the disease, still up and about, and the majority of them with an opportunity of spreading infection. Besides these, there are about 400,000 tuberculous children. By reason of lack of open-air schools, preventoria, sanatoria, special hospitals, and horticultural, agricultural and industrial colonies, the vast majority of these 1,200,000 tuberculous individuals continue the chain of infection and keep up our fearful morbidity and mortality at an expense of \$900,000,000 per annum.

Surely, the time has come for dealing more rationally with at least some phases of the tuberculosis problem in this country. And what are we to do first? We must at once, throughout this vast country, strive to have no uncared-for tuberculous patients. To this end, institutions for the treatment and care of the tuberculous who cannot be cared for at home without endangering others, should be multiplied by state and municipal appropriations and private philanthropy.

We must not be content with merely sending the tuberculous individual to a sanatorium for 6 or even 12 months until the disease is arrested or his condition improved and then allow him to return to his former deplorable unhygienic home environments or to resume his former occupation under the equally deplorable unsanitary conditions, which were probably responsible for his contracting the disease originally. Agricultural, horticultural, and industrial colonies, where the sanatorium graduate may have an opportunity to go for a year or more to earn a fair wage and at the same time be given a chance to make himself stronger and more resistant against a new outbreak or invasion of the disease are as essential as sanatoria or special hospitals. Without making the arrest or the cure of the disease lasting by such judicious after-care, the millions of dollars spent for sanatorium maintenance are a sheer waste of money.

Even the smallest children, if found tuberculous, should receive institutional treatment when the parents are poor, and whenever possible the mother should be allowed to remain with the child. For larger children afflicted with pulmonary tuberculosis we should have inland sanatoria with schools attached to them. For children afflicted with glandular, joint and bone tuberculosis, we should have seaside sanatoria. Some of our discarded battleships or cruisers may be utilized for this purpose, instead of being sold as junk or made to serve as targets.

Open-air schools, and as much open-air instruction as possible in

kindergarten, school and college, should be the rule; indoor instruction should be the exception. There should be no home lessons for the younger children. Love for life in the open air should be inculcated in young and old throughout the country.

There should be a sufficient number of public parks and playgrounds in our great cities to counteract congestion and reduce it to a minimum. The roofs of all city houses should be utilized to give more open-air life to the inhabitants by making them into roof gardens, recreation centers, or playgrounds. Outdoor sleeping should be encouraged whenever feasible.

Medical under- and post-graduate schools should give special courses in early diagnosis of tuberculosis, and instruction in how to inaugurate efficient social service for hospital cases afflicted with tuberculosis.

Early recognition of the disease should be facilitated for all classes by universal semi-annual examinations, by private physicians for the well-to-do, and by publicly appointed diagnosticians for the poor. The federal and municipal authorities and the employers of large bodies of men and women should set the example by enforcing these semi-annual examinations and should further what is commonly known as welfare work.

Besides popular anti-tuberculosis and general hygienic education, demonstrations by permanent exhibits, distribution of literature, lectures in schools, colleges, workshops, mills, factories, mines, stores and offices, the examination of every tuberculous adult should be accompanied by personal instruction in how to prevent infecting others. Anti-spitting ordinances should be enforced, but receptacles in public places for those who must spit should also be provided. The man advertising fake cures for consumption should be treated as a murderous criminal, for such he is.

There should be state insurance against tuberculosis, so that the man without means may be assured that even if he is found to be tuberculous he or his family will not be in want. Until, as in Germany, state insurance companies have their own sanatoria, our private insurance companies should be permitted to establish and maintain sanatoria and special hospitals for their tuberculous employees and policy holders.

Other sources of tuberculous infection, as for example from cattle or hogs, should be dealt with by federal laws since state laws, by reason of their diversity and often inadequacy, have proved inefficient. All milk, if not coming from tuberculin-tested cattle, should be thoroughly and scientifically, and not merely commercially, sterilized.

The influx of tuberculous immigrants likely to become a burden to

the community should be prevented by compelling all steamship companies to assure a clean bill of health for every immigrant they bring to these shores and to insure every immigrant against tuberculosis. The policy should entitle the bearer to return transportation and free treatment in a sanatorium in the event of his contracting tuberculosis within a specified time. The cost of the insurance could be added to the price of the steamship ticket.

Procreation of the tuberculous should be prohibited by law and the prevention of it taught to every tuberculous adult. The individual wilfully violating this law should be punished in a way to make the repetition of the offense impossible.

The predisposing factors, such as child labor, sweatshop labor, too long working hours for men and women, bad housing in tenements, apartments, lodging houses and hotels in city and country, including farm houses, boarding schools, orphan asylums, and other institutions housing many people, must be combated by rational laws and their strictest enforcement. The same rigor should be applied to laws concerning proper ventilation and sanitation in workshops, factories, stores, federal, municipal and private offices, and in public conveyances.

Wherever and whenever practicable, the home of the married American workman should be a detached single family house.

Maternity and convalescent homes should be provided in every city and town so that the laboring woman, arising from childbirth or the laboring man or woman recovering from a surgical or a general medical disease, can recuperate, regain strength, and thus not be susceptible to tuberculosis on returning to their daily vocations.

Tuberculosis among the Indians, Negroes, Chinese and Japanese must receive special attention on the part of our federal government with the view to combating the morbidity and mortality from tuberculosis in these races (particularly in the Negroes and Indians) in this country, which is three times higher than that from tuberculosis in the white race. Nearly all our reformatories, prisons and other penal institutions, including detention prisons, must be reconstructed or remodeled, cells and workrooms made sanitary and more outdoor life and better food given to the prisoners if a few years of penal servitude is not to be equivalent to a death sentence by tuberculosis. No tuberculous prisoner should be discharged, unless he is sent to a sanatorium so that when free he may also be well.

Malnutrition and the underfeeding of the masses, which is so great a predisposing factor to tuberculosis, should be combated by beginning with having fewer artificially and more breast-fed; by instructing ignorant mothers how to feed infants and little children; by provid-

ing simple but substantial school luncheons for all school children at cost; by education of the mothers in economic housekeeping, cooking, and food values; and by having eating places for the great army of unmarried laborers after the example of the German *Volksküchen* where people can receive good, wholesome food at reasonable prices; by legislative and philanthropic endeavors to make farming more profitable and more attractive, and by a wiser statesmanship whereby the cost of living may be reduced for the entire people.

Alcoholism and other excesses predisposing to tuberculosis should be prevented by education along rational temperance lines and wise and judicious legislation.

The eradication of tuberculosis as a disease of the masses—with all the physical, mental, and moral suffering, and the millions in money now sacrificed largely in vain—is nevertheless possible; but I emphasize once more, that it is not possible unless every tuberculous individual, in no matter what stage of the disease, is properly cared for at home or in an institution and all the predisposing causes removed. All the measures to attain this end must of course be inspired, neither by a blind phthisiophobia (an exaggerated fear of tuberculosis) nor by an hysterical phthisiophilia (allowing the tuberculous person to do as he pleases because of our sympathy or love for him). The intelligent cooperation of the tuberculous patient is as much needed in the solution of these various problems as that of the statesman, physician, philanthropist, and the people at large.

The various measures which I have ventured to suggest and which are described in detail in my paper, must never be allowed to become a crusade against the tuberculous individual, who is our friend and brother, but for his sake and our sakes we must make henceforth a more rational and determined fight against the disease “tuberculosis,” which is our most costly enemy and the most deadly foe of mankind.

Of course, there are certain social reasons for the prevalence of tuberculosis which are also responsible for some of our other social and physical ills. Among them I must mention first the utter ignorance of the vast majority of people who enter into matrimony of the responsibilities they assume as fathers and mothers of the coming generation. Some great philanthropist or some wise government should take the initiative and establish schools where the responsibilities and obligation of father- and motherhood would be taught. To these schools all candidates for marriage should be admitted gratuitously. A course of one or two months would suffice and there should be night lessons as well as day instructions so that those occupied during the day may also have an opportunity to learn. These courses should include family hygiene, home hygiene, eugenics, the science of raising

children physically, mentally and morally healthy, and such individual instructions for man and woman as the case may demand, all the work being directed towards enabling the future family to live a normal and happy life.

Next, I must refer to many of the abnormal industrial conditions of our day and the social injustice arising therefrom—our strikes, the lack of employment in some districts and the lack of workers in others, etc. These conditions must be readjusted, our deserted farms must be repopulated from the congested cities, the lives of the masses must be made happier, larger and fuller. When all this is realized, it will not only help in the solution of the tuberculosis problem, but will be a mighty factor in bringing about what this Conference has been called to consider—a genuine race betterment. But let us not think that this will come about unless we all believe in and work for a larger love of humanity and for more social justice and personal service to our less fortunate brothers and sisters. Someone has said that service to man is the highest service to God. I believe in this with all my heart.

Discussion.

Women's Work in the Open Air

PROFESSOR ROBERT JAMES SPRAGUE, Massachusetts Agricultural College, Amherst, Mass.

I have listened to a good many remedies for race suicide and race decline, etc. Some of them I believe in and some I do not, but it seems to me that the most vital thing that has to do with race degeneracy in the age in which we live has not been put forth. That sounds like a reformer, doesn't it? The Almighty somehow made us so that we needed to breathe air and he has not yet made any substitute that we have found, and the most of our racial decline, physical decline, is due largely to shutting off of air in one form and another. There is one other great fallacy that our race has adopted. Our race does not permit any woman of high class to do a stroke of economic work in the open air, and any race that adopts that policy, in my opinion, in the end perishes. A woman may work herself into indigestion, consumption and everything else in the house. She may pull pansies in the yard, she may play golf, she may motor, but she must not labor in the open air. Go to the great dynamic races that are multiplying so that the rest of the world does not know what to do with them, and what is the great dynamic point of those races? It is free work in the open air for both men and women, and when we get that, we will get such wholesome, strong bodies that many of these great problems we have been discussing will simply disappear because they won't exist. I just wished to bring out that one idea. It seems to me that

both men and women of our race have got to get to work in the open air and the extent to which we can do that will help to solve every one of these great problems we have before us.

THE PREVENTION OF ARTERIOSCLEROSIS

LOUIS FAUGERES BISHOP, M.D., Clinical Professor of Heart and Circulatory Diseases, Fordham University School of Medicine, New York City; Physician to the Lincoln Hospital; Consultant in Cardiovascular Diseases, Mercy Hospital, Hempstead.

Nothing can help race betterment more than the prolongation of the efficiency and life of men and women over middle age, who, having satisfied the personal ambition of youth, can devote themselves to the public good.

Never in the history of the world has the study of arteriosclerosis assumed so great importance as at the present time, because never before has this disease played so important a part in insidiously undermining efficiency and shortening the lives of the most valuable workers.

I am not in a position to make a comparative survey of the frequency of this disease, because, with heart troubles, it covers the entire field of my practice, but insurance men tell me that the mortality from the group of disorders that is covered by this name claims a number of victims that is more than double what it was thirty years ago. In 1910, one hundred thousand persons died of circulatory disease in this country, and I will venture the statement that there is not one of my hearers that has not lost a friend around sixty years of age during the past year from heart trouble, due, primarily, to arteriosclerosis. While this has been recognized, but little has been done in the way of prevention.

There are several things that need to be done: We need a clear definition of the disease. We need to become dissatisfied with the enumeration of indefinite causes, and we need an educated public opinion that will shield the earnest worker in the field of hygiene and dietetics from the thoughtlessly applied epithets of those who, seeking a refuge behind a bad prognosis, have no efficient regimen of their own to suggest.

As to definition, arteriosclerosis is the most improperly named of all diseases, and yet no one has suggested a better designation up to the present time. While it receives its name from the blood-vessels, which are often conspicuously involved, it is in fact a disease of the whole body, characterized by irritation, and finally, destruction of

cells in all parts of the body, the destroyed cells being replaced, according to the law of pathology, by connective tissue.

For many years, there was discussion as to whether this disease began in the blood-vessels, in the heart or in the kidneys, and the coincident involvement of the lungs, liver and digestive organs was noted. According to the point of view, it was called "heart disease," "Bright's disease" and "autointoxication."

In this instance, everyone was right, and everyone was wrong, for all the organs mentioned were indeed involved, and the disease might be named as well for one as the other.

That it is not primarily disease of the arteries is shown by the now familiar fact that the disease may run its course with only slight changes in the blood-vessels; or, the changes in the blood-vessels may be very marked and the disease itself have but little effect on the life of the sufferer.

The arteries, being of universal distribution and bearing much of the functional stress of the disease, may be granted the honor of giving it a name, and, from henceforth, the disease will be known as "arteriosclerosis" until such time as its fundamental nature is thoroughly understood and the underlying error of metabolism clearly designated.

It would seem that the disease originates somewhat in this manner: A person pursuing the even tenor of his way, being fed and nourished on the usual mixed diet and resisting successfully the usual slight accidental infections, is some day overtaken by some event that alters the chemical functions of his cells. This event may be a great nervous strain; it may be an infectious disease or surgical infection; or, it may be some form of acute food poisoning.

From that time on, the cells of this person's body are sensitive to particular proteins that reach these cells from the alimentary tract or from the bodies of bacteria originating in some focus of infection. So long as the supply of the offending protein continues, the irritation of the cells is kept up, leading to destruction and progressive sclerosis. Impairment of function follows and a greater and greater demand upon the circulatory organs, and eventually, the development of the picture of chronic Bright's disease, heart disease, apoplexy or pre-senility.

If, however, at any time it is possible to remove from the body the offending protein, the irritation ceases, compensation is developed, and the man is capable of being well.

The prevention of arteriosclerosis on these premises must depend, primarily, upon the avoidance of sensitizing events, such as periods of great stress and worry, infections, acute food poisoning, and the

neglect of foci of infection. Secondly, upon the study of food relations of individuals from time to time, and the institution of a strict regimen when, on account of changes in blood-pressure, pain in the region of the heart on exertion, or because of nervous depression and loss of efficiency, arteriosclerosis is suspected.

The great fact that must always be faced by the student of arteriosclerosis is, that it is a disease *without* symptoms. In actual practice, sufferers from this condition seldom come under treatment until it has lasted for from three to fifteen years, and, even then, they usually come because a life insurance man who has examined them or a physician who has treated them for some other disease, has discovered arteriosclerosis.

Arteriosclerosis is seldom the result of a single cause, though most investigations reveal a sensitizing event. The effect of this sensitizing event might have been averted, had not the individual previously been a victim of too great ambition, of too long hours of labor, under too great strain, of the neglect of outdoor exercise, or the over-ingestion of food, with perhaps the immoderate use of alcohol and tobacco.

Another element in the prevention of arteriosclerosis is the education of all persons in the habit of taking "eures," if this name may be used for periods of time set apart for the putting of the body in the best possible order.

We should adopt the motto, "Attend to the health while healthy," and encourage the European custom of the combination of a vacation and a visit to a cure resort.

We must learn the secret of right living, and avoid apoplexy, heart failure, paralysis and sundry diseases of the liver and kidneys that follow in the train of errors of diet and work.

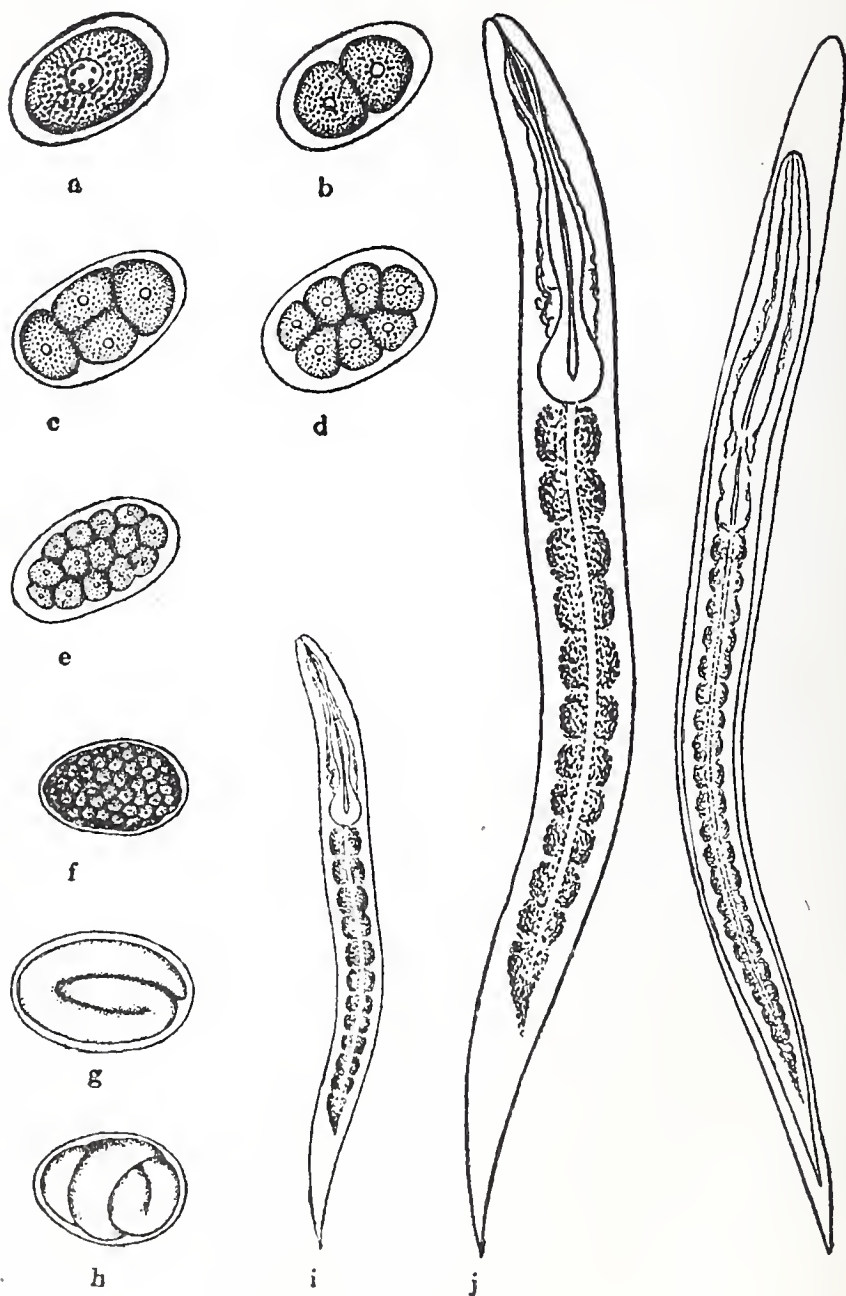
Race betterment must always be a matter of the improvement of the individual. Arteriosclerosis is not your neighbor's enemy; it is your enemy. It is the greatest though most insidious danger to a group such as is gathered here to consider the welfare of the race in general. I trust that no one of you will neglect to study the solutions of this problem of health through right living that are offered by this magnificent institution, the Battle Creek Sanitarium, whose guests we are.

HOOKWORM DISEASE

LILLIAN SOUTH, M.D., Kentucky State Bacteriologist, Bowling Green, Ky.

Hookworm disease is international, being found in every country in the world 36° north and 30° south, according to the recent survey of the Rockefeller Commission. I shall not discuss this phase of it,

but merely tell you how we have met this condition in Kentucky and its effect upon our people. Hookworm has been found in every



HOOKWORM IN ITS VARIOUS STAGES OF DEVELOPMENT

county in the state, the intensity of the infection varying in different localities. Of the 156,000 specimens examined during the last three



Eighty-five per cent of the children of this school are infected.



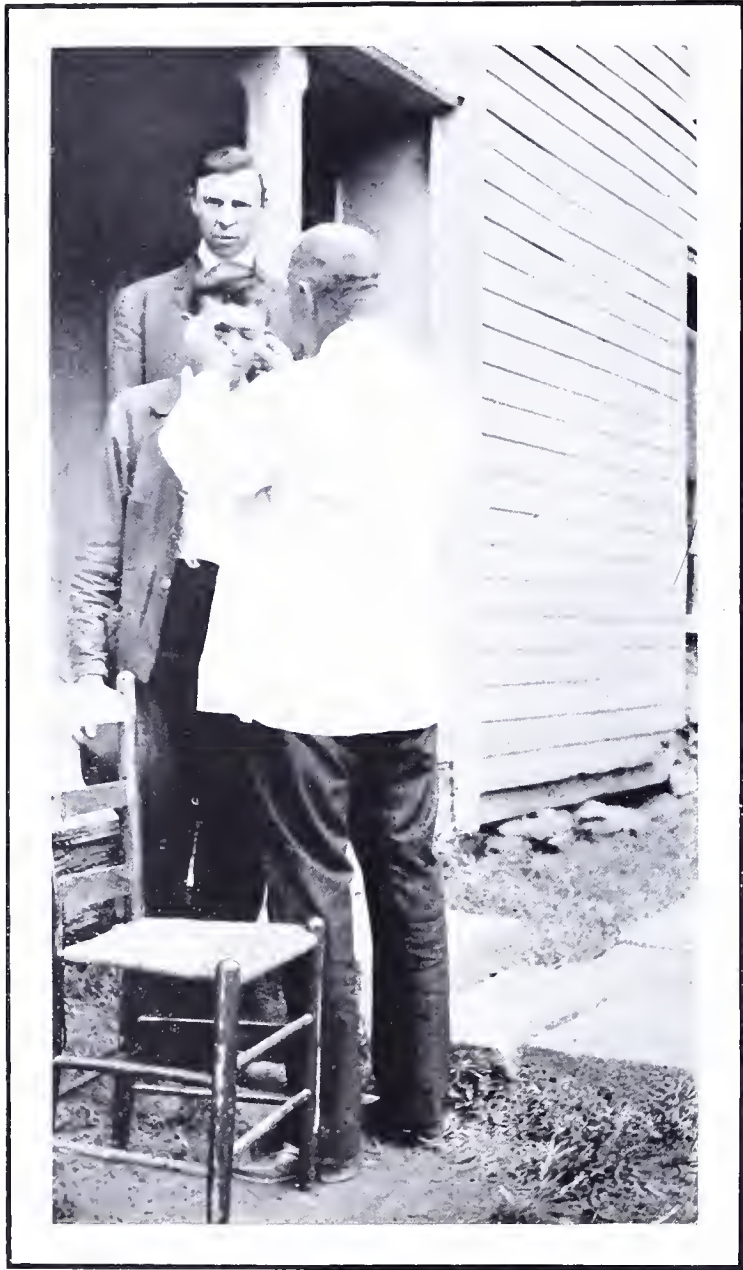
A dispensary. The people waiting for the doctor and microscopists.



A schoolhouse. Children and their parents attend the dispensaries.



A Kentucky family, all heavily infected with hookworm.



Dr. Mullen, of the P. H. S., treating trachoma in the Mountain Hospital.

years, thirty-five per cent showed hookworm and fifty per cent showed other intestinal parasites. Hookworm disease is caused by a small worm about an inch long and about as thick as an ordinary pin. The male hookworm is smaller than the female and is distinguished from the latter by its fan-shaped tail. The female lays from one to three thousand eggs a day; these pass out with the normal bowel movement. These eggs, under favorable conditions of temperature, moisture and shade, hatch out the young worms, called larvæ, in the course of eighteen to twenty-four hours.

Within a week the tiny worm has shed its skin twice, much as does a snake. It lives in a sheath, but takes no food after the first few days following its escape from the egg. Only in the encysted or larva stage is it capable of entering the body. The larva or microscopic worm enters the body by boring through the skin. In penetrating the skin the embryos produce the condition known as dew poison, ground itch or toe itch. After gaining entrance to the body the worm enters the bloodstream, passes the heart and finally the capillaries in the lung, these blood-vessels being too small for further navigation, the larvæ make their way up the windpipe, or are coughed up and swallowed into the stomach, and finally enter the small intestine. This method has been demonstrated by actual experiment upon human beings by Dr. Claude A. Smith, of Atlanta, Ga.

After a short residence in the small intestine they grow to be an inch long and become blood suckers.

SOCIAL CONDITIONS

While it is true that it is chiefly among persons of poorer financial conditions living in unsanitary surroundings that the most marked cases are found, because the opportunity for infection is so much greater, cases are frequently found among those who are more fortunate financially and the better educated classes. The hookworm is no respecter of persons and will attach itself to anyone. The accompanying pictures will graphically illustrate the effect of the disease.

TREATMENT

The treatment of the ordinary case of hookworm disease is a comparatively simple matter, usually very effective and can be taken without loss of time from business. The treatment should always be given under the direction of a physician. The thymol comes in direct contact with the worms and kills them, and is given in capsules, the size of the dose depending on the age.

Hookworm disease is preventable. It is more easily prevented than are most diseases. Not only can it be prevented, but the very

methods to be used in its prevention will also prevent all other diseases whose poisonous elements or germs are carried in the bowels and urine. Whenever hookworm disease is diminished, typhoid fever and other diarrheal diseases are reduced in the same proportion.

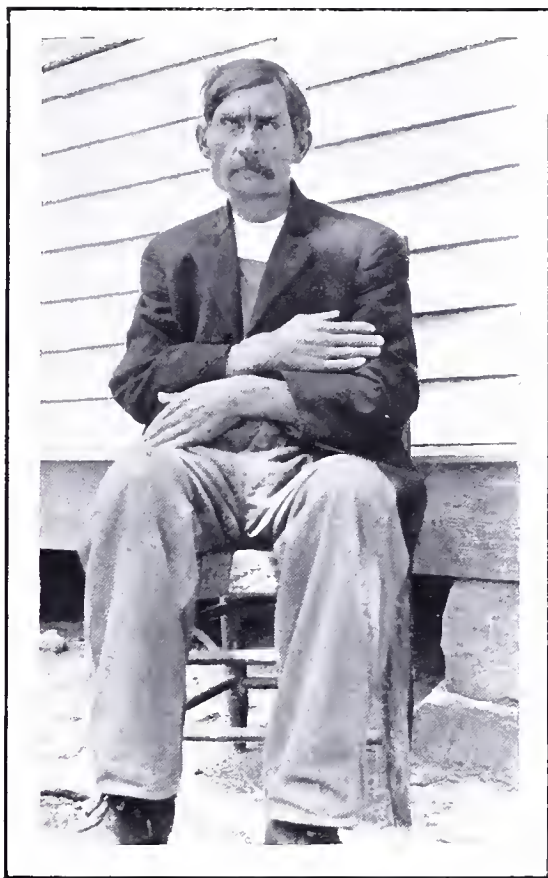
The contamination of the ground with disease-producing germs or parasites is called "soil pollution." When we recall the fact that the worms do not multiply in the body, but that the eggs are discharged with the movements from the bowel and hatch out after being deposited upon the ground, it must be apparent that if we can prevent soil pollution we will prevent hookworm disease. It is spread as a result of the careless disposal of bowel matter by infected persons, and is almost purely a question of privies, and if the people will consent to construct and use sanitary closets, hookworm disease will be stamped out.

The State Board of Health of Kentucky has devised a sanitary toilet, made of concrete, which is very inexpensive to build, is fly-proof, odorless, and does not have to be cleaned out. A copy of the bulletin of the Kentucky sanitary privy will be mailed to anyone upon request. The general use of these privies will not only eradicate hookworm disease but will solve the problem of rural sanitation and will be a great step in preventing typhoid fever.

DISEASE AND ITS PREVENTION

GUILFORD H. SUMNER, M.D., Secretary Iowa State Board of Health, Des Moines, Iowa.

- I. Introduction.
- II. Preventive Medicine.
- III. Scientific Doctor of Today.
- IV. No Better Investment.
- V. A Newer and Greater Enthusiasm.
- VI. People Not So Particular Formerly.
- VII. The Neglected Member.
- VIII. Certain Uprisings.
- IX. Hunting through Microscopes.
- X. The Consumptive.
- XI. Another Virulent Communicable Disease.
- XII. Improper Things.
- XIII. Manfredi's Discoveries.
- XIV. Conclusion. (a) God's Motherhood. (b) The Charm of Life.
(a) Transmission of Disease. (b) The Remedy—Education



A pellagra patient also infected with hookworm.



Same patient six months later. Gained 25 pounds.
No pellagra symptoms.



Swelling of the feet and face. "Banana abdomen."

DISEASE AND ITS PREVENTION

In these days of advanced enlightenment, people are seeking knowledge in all departments of life. I see a growing sentiment coming which will require that knowledge, relating to the prevention of diseases, shall be disseminated among the inhabitants of every well-regulated municipality.

We are just beginning to live in an era of Preventive Medicine. Formerly the physician was trained in curative processes—instructed in methods of healing ills. By this procedure, communities are dealing with results of existing insanitary conditions. There are journals and journals which publish regularly many reports of clinical cases or discussions of the etiology (causes) of diphtheria, scarlet fever, typhoid fever and all transmissible diseases, but broader and more effective methods are beginning to be employed.

Curative processes, while very necessary, are not the most essential to the public in general. As we are to merge from the old lines of procedure into the new and more progressive methods, we must not only study the clinic, but the street, the alley, the back yard, the insanitary privy, the pollution of streams and all kindred subjects which are disease producers. These very important subjects are the doctor's domain, and numerous new topics must be discussed, which deal with the relationship of medicine to society, and bear on the economic basis of disease.

Dr. Rudolph Virchow, one of Europe's foremost medical experts, and Dr. Oliver Wendell Holmes, America's poet physician, were among the very first to advance the theories of transmission of disease. It was Doctor Holmes who first called attention to the contagiousness of puerperal fever. He was suspicious that his comments on this destructive disease, though his subject was an unusual one, would not be well received by the staid representatives of the medical profession. The article was published in an obscure medical journal of New England, but who can say that Doctor Holmes was not right? The idea advanced at the writing of Doctor Holmes' article is now taught and advocated by every progressive, modern physician in the world. Doctor Holmes is dead, but his precept lives. It was Doctor Virchow who was employed by the German Government to investigate an epidemic of typhus fever in Upper Silesia. This was when Doctor Virchow was a young practitioner of medicine, and it is related that the government, in employing Doctor Virchow, made a mistake in securing the services of so progressive a medical expert, for in his report of existing conditions, he did not deal in technical terminology, but delved into the very causes which produced and promulgated this disease.

This able and young medical man studied well all the conditions of the country where typhus fever was raging, and in his report, he spoke of the extreme poverty and ignorance of the inhabitants. He told how the people were enslaved mentally, and how the Prussian bureaucracy loaded them with physical burdens. Strange as it may seem to us now, this wonderful young physician said: "*The remedy lies not in medicine, but in education.*" He wrote that "the great era of social progress in progressive, preventive medicine is upon us, and it behooves us to meet conditions and educate the people."

The German government awoke to the fact that it found itself reading treatises on sociological questions which related purely and solely to preventive medicine. Young Virchow was relieved from the government service, and with his dismissal, was a request that he take a vacation and leave the country.

This most important era of preventive medicine which Doctor Virchow helped to install has come to stay. The cure-all doctor, the exclusively pill-and-potion doctor, the advertising quack, the so-called drugless healer of human ills, the so-called faith healer, the patent medicine man, the medical liberty league man or the teacher who claims that human ills are only imaginary is not the modern, scientific doctor of today.

The sphere of the medical man has been enlarged, and he has discovered that tuberculosis, typhoid fever, diphtheria, scarlet fever, smallpox and many of the diseases are economic maladies, and that trade and occupational diseases will not disappear until social conditions are made better. It will soon become a self-evident truth that no man can become a good physician unless he is thoroughly versed in preventive medicine, and is willing to lend his personal influence for the betterment of all social conditions. A good physician will be a true medical sociologist.

I do not intend to decry the medical profession—far from it—but to bring before an enlightened public the plain truth that medical men are giving to the world the results of their scientific investigations, all of which is intended to keep the people well and thereby prevent sickness and untimely deaths. The real physicians of today are now trying to make health conditions better all over the world, and for this reason Boards of Health are being formed, both State and Local Boards of Health, in order to disseminate a knowledge of preventive measures which will give to us, as a result, a strong, long-lived, healthy people. It is not economy to keep knowledge from the people. Ignorance goes hand in hand with poverty, and poverty walks with disease, and disease destroys.

The government or the municipality can make no better invest-

ment than to make provision to keep the people well. This can be accomplished only through Boards of Health, hence the National and State governments, as well as municipalities, should formulate uniform plans whereby the people may be regularly informed in regard to the prevention of disease. There are those who oppose the formation of public health boards, for no other reason than that the restrictive measures, adopted by such Boards, prohibit the imposition of quacks and humbugs upon the innocent and defenseless. It is a noteworthy fact that whenever a state practices economy in public health measures, efficiency is not attained, but if we place efficiency first, economy is the essential result.

The control of communicable diseases should be the prime motive of all municipalities through their health boards, and this can be accomplished by stopping their spread at the source, which is the person having the disease or existing unhealthful conditions. We must depend upon the medical profession to formulate all plans for preventive medicine work, but as yet the medical man has not been offered a sufficient remuneration—too small a financial incentive—to abandon his private practice for public service. The people should understand that health boards are trying to arouse the people to the general problems of clean living. I wish to impress upon you that real clean living should begin with the basic principle embodied in the very first verse of the Bible: "*In the beginning God.*" Real right living is based upon a clean life. It has been said that learning and education are synonymous terms. This is not true. Learning is knowledge stored up in the mind, but education is a bundle of habits, and in so far as our habits are good and pure, our lives will be made cleaner and better. All citizens of any community should unite in a campaign for clean lives and good health, and when this is done, a long step has been taken towards the breaking up of political partisanship, which should never exist in public health work.

No community should stop short of a most rigid understanding that all diseases which are preventable should not be allowed to exist, and special emphasis should be placed on preventive rather than curative processes. Control transmissible diseases by stopping their spread at the source, and in trying to abolish insanitary conditions, remember that the strength of inspection lies in frequent reinspection.

Local interest in health work should be stirred up by practical, convincing literature and lectures that will appeal to the average citizen. Let the business man be shown that efficient health work pays large dividends, and all workers for civic improvement should see that a clean city offers a poor breeding place for municipal corruption.

Let us hope that better things are in store, in public health matters,

for the people of all cities in every state in this country, and trust that future legislative bodies will make ample provision for executing health laws and that each city will fall in line and work for more and better health regulations in the future than in the past.

I was very much impressed by reading an illustration recorded in the congressional record, wherein a congressman said in his speech before the House of Representatives of the United States Congress, that we as a nation and a people need a newer and a greater enthusiasm in the managing of the business affairs of this great country. He said: "*We need an enthusiasm like that which the old colored deacon prayed might be given to Sam Jones from Heaven.*" The incident was related, wherein it was said that Sam Jones was invited to preach to a colored congregation down in the state of Georgia, and if any of you here in this audience have ever been present in a colored congregation where religious services were being held and listened to the vociferous hallelujahs and typical amens of an Ethiopian congregation, you will appreciate the old black man's prayer. It is related that, prior to the preaching service, this old colored deacon was called upon to open the services with prayer, and with the congregation on bended knees, this old black man, in the fervor of his soul and with his face turned upward to the skies, prayed for Sam Jones on this wise: "*O, Lawd! Gib Brudder Jones de eye ob de eagle dat he may see sin from afur. Gloo hiz ear to de gospel tel'phone and connect him wid de central skies. Nail hiz hands to de gospel plow. 'Luminate hiz brow wid a brightness dat will make de fires ob hell look like a tallar candle. Bow hiz head in some lonesome valley where prayer is much wanted to be made. 'Noint his body all ober wid de ker-sene oil ob dy salvation and sot him on fire. Amen!*"

I am impressed when I recall the fervor manifested in the earnestness of this old black man's prayer and wish that this kind of enthusiasm in public health work might be manifested in the minds of the people of every state and municipality. One needs but to examine the conditions of any city or community in any locality to be convinced that gross insanitary problems are waiting for solution and correction.

You have often heard the common expression: "*People were not so particular in former times in regard to matters relating to public health.*" This is undoubtedly true, but we have progressed. People were not taught methods of disease prevention in former times as they are today. It is definitely known by all physicians that in former times curative measures were employed alone, and all the world was educated to employ measures to correct results, when the proper and most economical plan would have been to have prevented the results.

Disease, sickness and death are results of causes, and the purposes of health measures are to prevent rather than cure.

Two poems, significant of conditions in the past and in the present, have come into my possession, and I am pleased to repeat them for you because they contain so much truth that is applicable at this time.

Dr. W. C. Rucker, Assistant Surgeon-General of the United States Public Health Service, writes:

“The happy days of childhood
I often call to mind,
I love to live them o’er again
By memory’s light refined—
The orchard and the meadow,
And the loft of fragrant hay,
The garden and the privy,
And the well not far away.

“The farmyard with its litter
Of manure round about,
The milking shed where flies galore
Flew buzzing in and out,
The pig-sty and the chicken house,
The hens that scratched all day
In the ground beneath the privy,
With the well not far away.

“We took our joys and sorrows
As they chanced to come along.
My brother had the ground-itch
And he didn’t grow up strong,
And Mary died of fever—
It was mighty sad that day—
But we didn’t blame the privy
Nor the well not far away.

“In the summer time, mosquitoes
Used to sing the whole long night,
But we would keep the windows closed
And thus avoid the bite,
But Billy got the ague
And Lizzie pined away—
Mosquitoes—foul air—privy,
And the well not far away.

“We used to think that death was just
A punishment for sin—
The sin of ignorance I say!—
So let us now begin
To try and get the windows screened
But open night and day,
And a sanitary privy
With the well quite far away.

"Let's clean the cows at milking time,
 Let's clean the barnyard too,
 Let's rid ourselves of fevers
 And the chills and ague ere,ew,
 Let in the air and sunshine
 But drive the fly away,
 With the ancient typhoid privy,
 With the well not far away."

Henry Malins of Indiana, in speaking of prevention, makes a comparison between the fence and the ambulance, and says:

[This poem appears elsewhere in this volume, but is so excellent it will bear repeating.—Editor.]

"'Twas a dangerous cliff, as they freely confessed,
 Though to walk near its crest was so pleasant;
 But over its terrible edge there had slipped
 A duke, and full many a peasant;
 So the people said something would have to be done,
 But their projects did not at all tally.
 Some said, 'Put a fence 'round the edge of the cliff';
 Some, 'An ambulance down in the valley.'

"But the cry for the ambulance carried the day,
 For it spread through the neighboring city,
 A fence may be useful or not, it is true,
 But each heart became brimful of pity
 For those who slipped over that dangerous cliff;
 And the dwellers in highway and alley
 Gave pounds or gave pennies, not to put up a fence,
 But an ambulance down in the valley.

"Then an old sage remarked, 'It's a marvel to me
 That people give far more attention
 To repairing the results than to stopping the cause,
 When they'd much better aim at prevention.
 Let us stop at its source all this mischief,' cried he.
 'Come, neighbors and friends, let us rally:
 If the cliff we will fence we might almost dispense
 With the ambulance down in the valley.'

"Better guide well the young than reclaim them when old,
 For the voice of true wisdom is calling:
 'To rescue the fallen is good, but 'tis best
 To prevent other people from falling.'
 Better close up the source of temptation and crime
 Than to deliver from dungeon or galley;
 Better put a strong fence 'round the top of the cliff,
 Than an ambulance down in the valley!"

The sentiment expressed in these poems is characteristic of an age of great progress, and the time has been when Hygeia, the poor, neglected member of our medical family, sneaked away into oblivious

places; but now more brave, she has come forward to claim her rightful place in the medical home. Her sisters welcome her, and her suitors seek her hand. Ever since I first entered an office as a medical student, I have been a lover of this fair mistress, whose banner I have unfurled and carried, holding that the advancement of hygiene has enlarged and beautified the medical profession, without lessening the value of any other branch. Though she is here to stay, her errand is not completed by giving her proper recognition in medicine. She now turns to the people, the government and the municipalities—the Owen bill and the Mann bill, both of which have been considered by the Congress of the United States, for the express purpose of creating a National Health Department—the forces apart from the medical profession, and demands her place in the councils that rightfully belong to her. A temporary expedient has been reluctantly permitted a place in the councils of the hygienic interests of the land; but the relentless demands of our present civilization cannot be fulfilled until the protector of our public health interests shall have a permanent place in the councils of our government at Washington, the same as are the other departments. We may construct a mighty navy for destruction and defense and call out vast armies; but disease wipes out with a tiny weapon so minute that the eye cannot discern it and no military force can arrest. We may fill our storehouse with gold and store up wealth in other forms, thereby enabling us to purchase the labors of human beings for profit, distinction, lands, everything but God's great and free gift, health, the thing that makes man conform to Deity. All the great activities of life, together with all the industrial pursuits of mankind, which are now paramount in the minds of the cabinet officials, who are masters and possessors in their line, having a knowledge of political economy and civics, cannot flourish without strong, vigorous bodies, the proper vessels for healthy brains—vigor of human blood, brains and brawn are the mechanism of all successful achievements; yet not until the present time has it been thought that the skilled supervision of a thorough medical man was necessary to maintain and protect the health of the community, without which the functionaries themselves could not perform their duties perfectly.

How clearly it comes to me now and how well do I remember, after completing a four years' medical course, when I was about to begin my profession with a minimum of experience and maximum of enthusiasm and an exalted opinion of the dignity and responsibility of my charge which the years that followed have only intensified. I was astonished at my own ignorance of the real causes of disease, and my lack of knowledge of sanitation! I had been taught how to cure dis-

case—great stress being placed upon the giving of proper medicines. All of this is quite essential to the work of a successful physician; but would you not prefer to pay your physician to keep you from becoming sick? The results, therefore, to be attained by the health board of the municipality and its health officer are that all communicable diseases may not only be prevented but eliminated. We have certain uprisings of a spasmodic nature whenever a pestilential disease comes, and we grope our way under the flashlight of death in our midst; then it is that we begin to look around for the cause of all our trouble. There is no better time to prepare for war than in time of peace, and this holds true in public health work—preventive methods should begin before the disease appears, and here is the opportunity for sanitary work.

I remember reading of conditions which exist at times in cities and towns, related in an old leading medical journal, and I recall them here:

“Whether cholera has or has not made its appearance at, which is practically one of the suburbs of, it is certain that the conditions reported to exist there are in the highest degree favorable for the introduction and spread of that disease. All accounts represent the neighborhood in which the alleged cases occurred as filthy beyond description and occupied by a class of persons who pay no attention whatever to the laws of health or personal cleanliness. Of course, the country now has the pleasant assurance that the place is to be thoroughly cleaned and effectively quarantined; but why were not the steps necessary for the protection of the public health taken before the resulting disease, whether cholera or not, had gained such a footing that already five persons have died from it? The time to lock the stable door is before the horses housed therein are stolen, and the way to treat contagious diseases is to prevent their appearance and not to wait for them to gain a foothold and then try to stamp them out.”

As health officer of the city of Waterloo, Iowa, my home state, a number of years ago, when smallpox first made its appearance in Iowa, I had a rich experience which taught me that we should never temporize in public health matters. A stranger came to the city with smallpox and it was a puzzle to the local Board of Health as well as myself to know what to do with him. The city at that time had no place to build a detention hospital—and here let me say that ample provision should be made by all communities for all such emergencies—and to force anyone to take care of this case of smallpox was out of the question. After a great deal of trouble and anxiety, a place was obtained and a small detention hospital was erected. We learned

a lesson, and the result was that the city at once erected a suitable detention hospital, isolated from the city, where all such cases could be properly cared for; but what we most need is perfectly clean cities, towns and villages—so free from all forms of filth that no contagious disease dare enter. We were forced to temporize in the above case, but temporizing under the spur of emergencies does not bring permanent benefit.

As the enlightened physician seeks to prevent his people from becoming ill, so should the guardians of the public health be able to forestall these emergencies, whose pecuniary expense in money expended and wasted, in trade paralyzed and diverted, in labor and its wages lost by the sick, terrified and dead, in a single epidemic, exceeds that of maintaining an efficient sanitary service for the whole country for a whole year. May I pause here and ask, What are you doing to help the medical men who are trying to bring about better methods of sanitation and to adopt better, purer, and nobler plans of living in order that sickness and untimely deaths may be averted? The fault of the medical profession has always been its lack of bold assertions of its rights; but it can no longer hesitate to declare to the trade, commerce, agriculture, and manufacture that the health and vigor which are essential to the prosperity of our people cannot be secured by their own unskilled, uninformed efforts. They must learn, as the military departments have learned, that the powerful armies and navies are the results of able and untrammelled medical departments. It is as unwise to confide the care of the health of a community to a financier, however shrewd, as to expect a fishery commissioner to best administer the affairs of the public school. The general health of our country is a national consideration involving international co-operation. No priority or clash of sectional interests should exist. Lines are not drawn by epidemic intruders. No state barriers can be so defensive and impenetrable that the toxiferous germ cannot pass through.

I have spoken of uprisings of a spasmodic nature, which are only tentative provisions in emergencies and bring no permanent good. The scientific tendency of today is the hunting through microscopes instead of using our human eyes upon visible abominations. The sanitarian, official or amateur, needs only to look about him to be appalled at the spectacle of indifference of rich and poor, high and low, to dangers far greater than from any cholera microbes which confront them every hour and it may be worth our while to consider some of these things, which we complacently refuse to see, while we are looking through our microscopes. The preventable disease which kills more of the human race than cholera and yellow fever combined—and in its ordinarily

slow process of killing lessens the productive power of a community, directly by the enfeeblement of its victims, and indirectly by its demands upon members of households and charitable institutions for the care of these chronic invalids—tuberculosis, is tolerated with as little concern as that which the Creole exhibits for yellow fever and malaria.

The consumptive, whose traits no professional acumen is required to recognize, frequents our thoroughfares, sits beside us in unventilated street cars and at hotel tables, occupies Pullman sleeping berths, shares the steamship stateroom, wholly unrestrained and innocently ignorant that he or she may be sowing the seeds of disease among delicate women and children. Anyone may verify these statements who uses his eyes for the purpose along the railway and coastwise steamer routes to our invalid resorts. It is related by a traveler, a physician of repute, that while he was journeying he had observed and he said:

“While traveling by rail I was fellow-passenger with two invalids in the advanced stage of consumption, enroute South, one of whom occupied the opposite berth and the other one diagonally across the car, so that I could see and hear them coughing and expectorating with only such attention as well-intending, but unskilled relatives could render. They had no vessels for receiving their sputa, which were discharged in their pocket handkerchiefs to be scattered over pillows, coverlets and blankets. They left the car in the morning and I saw those same berths—it is true, with change of linen, sheets and pillow cases, but with no change of blankets, mattresses or pillows—occupied that very night by other travelers, who were thus subject to contact with a pathogenic microbe far more tenacious of life and power of evil doing than the dreaded cholera spirillum.”

One has only to sit in a crowded street car on a winter day and watch the clouds of respiratory steam circling from the mouths and nostrils of the unclean and diseased into the mouths and nostrils of the clean and healthy, as the expiratory effort of the one corresponds with the inspiratory act of the other. The road is short but straight and sure from vomica and mucous patch to the receptive nidus in another's body. Who that has had forced upon him an aerial feast of cabbage, onions, garlic, tobacco, alcohol and gastric effluvia of an old debauchee can doubt that aqueous vapor can transport microscopic germs by the same route. I am here reminded of the vastness of my subject and these graphic descriptions will furnish you with ideas of what you may see if you will only use your powers of observation, but all this will avail nothing unless it leads you to advocate and adopt measures of prevention. You are being brought into contact with the monster which is eating away the human race,

and you, as a people, must know how to care for yourselves and give that timely advice to others which a waiting public ought to know. You are reminded that we are being constantly exposed to diseased conditions, and were we to care for our bodies as cities care for their streets, alleys and the construction of buildings, imagine our appearance.

I feel so profoundly impressed in regard to the spread of tuberculosis that I cannot refrain from further bringing before your minds an imaginary picture for the purpose of further illustrating conditions which are not of infrequent occurrence.

Suppose one is on a coast steamer, journeying to some southern resort. The air is chilly and a dozen or more consumptives are huddled together, trying to keep warm, and all doors and windows are closed until the atmosphere has become so stifling and surecharged with their emanations and the dried sputa, which they eject on every side, that good breathing air is as scarce as diamonds in the fertile soil of any productive state. One can easily escape during the day by staying on deck and by sleeping in his stateroom with windows wide open, but the curtains, carpets, pillows and mattresses are still all saturated by you know not how many expectorating predecessors. Smallpox, yellow fever and cholera are not to be compared to the dread disease tuberculosis, which is fast becoming the absorbing topic of our leading medical lights. The Iowa death report for the month of December, 1912, states that there were for that month 167 deaths from pneumonia, and 117 deaths from tuberculosis. It is believed that there are more deaths from these two causes than any other. Tuberculosis is on the increase. Our cattle are becoming infected and the question of conveying this disease through milk is being most seriously considered. Milk inspection should be in force in every place where milk is dispensed. Many physicians can recall their several experiences where members of a family have occupied the same chamber and bed with a gentle and beloved one, also those of tuberculous husbands and wives, who have become ill like them with consumption attributed to everything but the manifest cause.

Shall I now introduce to your notice another virulent communicable disease, in the interest of helpless and innocent women and children? Shall I labor to convince you as husbands and those who expect to be such, that there are numerous indisputable instances of innocent infection of syphilis? This disease may be and has been contracted from combs and brushes and rough-edged drinking vessels in hotels, sleeping cars and boarding houses, from pens, pencils and paint brushes that had been held between diseased lips, from dirty old bank notes, from street vendors' toys, from a lover's kiss, a stranger's caress,

or a nurse's ministrations. A case of a young lady in a not distant city demonstrates the fact that syphilis can be conveyed by a lover's kiss. The young man when told of the cause was confronted with the aphorism: "*The way of the transgressor is hard.*" Supported by an array of cases of infected children, young girls and elderly men and women, the committee of the American Public Health Association advocated the enactment of a law placing venereal diseases in the category of other communicable affections and punishing its transmission as a misdemeanor; but in this instance, as in many others, it was thought by the self-righteous ones that it was best to seek to exterminate this disease by ignoring its existence and never uttering its name—the disease that has done more harm to mankind than all the diphtheria, typhoid, smallpox, measles and scarlet fever combined, which are so carefully isolated, and their statistics so regularly collected and promulgated; a disease which travels with the missionary to Asia, Africa and the Pacific and decimates bodies faster than he can whiten souls. I think your eyes are becoming opened to the fact that preventive measures should be speedily adopted in order that we may become a better people, mentally, morally and physically.

It is not expected that all who have eyes will see these things, or those having ears will listen to what is said. The idle, perverse generation of the first century will have its following in this present time and men and women will continue to do improper things that they ought not to do, and leave undone the proper precautions they ought to take, despite our warning, our imploring, our advice, or denunciation. However benevolent and beneficent the good physician's aim, his unappreciated, unrequited and often unprofitable labor is enough to deter him from what has been derisively described as only an effort to procure the survival of the unfit, and thus thwart Nature's own attempt to rid the world of them. He encounters another obstacle to success as aggravating as the disbelief in the necessity for his work. The authorities listen to his warnings and then employ their perfunctory and superficial methods of protection. The medical profession has stated that absolute cleanliness is the fundamental fact of sanitation, and in order to keep clean streets, cleaners are set to work brushing the surface dirt into little heaps, as seen in many cities on almost any day after a heavy rain or in the spring, which passing vehicles again distribute or the winds carry into open windows of adjacent residences. The refuse of the household is deposited in old barrels, boxes, or vessels of some kind on the sidewalks of crowded thoroughfares to be emptied after a time into collecting carts or wagons, from which clouds of dust envelop passers and circulate back into the house, living dust, for Manfredi found millions

of microbes to the gram of the street dust of Naples, from which he cultivated pus, malignant edema, tetanus, tubercle and septicemia. Visit any alley and there find the offal of the kitchen, there observe the swarm of flies feed upon the decomposing contents of exposed garbage cans and buckets, and carry their tiny germ-laden booty into the butcher-shop of the poor and the kitchen of the millionaire. Who can dispute the fact, for it has been demonstrated by bacteriologists that dogs can transport diseases in their hair, and newspapers and letters have carried smallpox from places where the disease was raging to distant lands, that a cloud of dust, a swarm of flies or a single fly can disseminate cholera and become a focus of infection, which would have been impossible had ordinary care been exercised in preventing the exposure and properly destroying the discharges and excreta of those already sick?

In conclusion permit me to say that every city should undergo a cleaning often, and here let me say that I am a firm believer in cremation for all refuse matter in any city. Dumping grounds are only pest-houses for the hatching of germs. Here flies congregate and are the disseminators of disease. No city can be accounted clean until its ordinances require every cellar door to be widely opened to the sun and air, that royal pair of germicides; every cellar to be emptied of its refuse, every cellar wall and ceiling to be scraped and whitewashed, every cellar floor to be taken up if rotten, and sprinkled with lime if uncovered—a tedious and expensive process, but effective prevention, costly as it must be, is cheap beside the outlay of a single epidemic. I have noticed fruit stands uncovered on street corners, bakers' wagons with their contents unprotected from the dust and filth of the streets, and waiting stations whose filth was so gross that it beggars description.

At this point I desire to digress for the purpose of speaking briefly upon a subject that is very closely allied to "Disease and Its Prevention." There is a name closely connected with the life and work of every individual, and that name is "Mother." Because of this intimate relation I desire to speak briefly upon the subject:

GOD'S MOTHERHOOD

When we think of the mystery of life, and how the young are blinded by ignorance, is it surprising that the innocent stumble into the pitfalls of sin and dishonor? We should be impressed with the sacredness which comes with the life of the young girl. Her eyes should be opened and she should be taught that God has destined her to honored motherhood, and that any condition of life short of this is out of harmony with the Divine plan. *Motherhood*, the sweetest of

God's gifts to humanity! The Creator made no mistake when he gave this power to woman, and every sacred and Divine instinct should be brought into congregated activity to preserve this God-given grace, which is the right of every woman to keep inviolate. The young girl should have the light, and as the morning sun begins to light the new day, so should knowledge be imparted to the young girl as she merges from her childhood into a sacred and newer relation—that of motherhood.

The time is now rife with splendid opportunities to begin a campaign of education that will extend into the heart life of the on-coming generation of young womanhood, in order that every young girl may be early taught to have an exalted idea of the sacredness of her calling and to preserve the sanctity of her own body. To this end a knowledge of the dangers which may surround her, through which she may fail of a life in keeping with that high sense of appreciation of her individual or personal purity, should be instilled into her forming mind. The motherhood instinct, beautiful and sublime in its extremest sense, is but a perfect type of Deity and a co-partner with God for no other purpose than to carry into the world in the generation of new beings, the joys and pleasures of Eden. Perversity partakes of degradation and a departure from the plan which God ordained in the beginning. May the lost joys of Eden be restored, and may we retrace our steps to the Creator's original plan, and in the language of Milton:

“The chariot of paternal deity,
Flashing thick flames, wheel within wheel; undrawn,
Itself *instinct* with spirit.”

The womanhood of the world must be protected, and all godly men must come to the rescue. Christianity is the one plan ordained of God that will save, hence the inner life, the life we live, must be under the control of the teachings of the lowly Nazarene. The girls must be taught the sacredness of their bodies, and men should learn that the honor of women is a God-given grace and not to be violated. Let us get back to the sacred side of life and to the teachings of former days, living the life that will be void of offense. Teach the girls the things that will save them from stumbling into the pitfalls of wicked men. If the manhood of this country will not respond to the call of this great reformation, then let the women take the reins of government into their own hands and rid the world of the destructive agencies that are destroying the motherhood, womanhood and morals of the home. I mean by this that, should men not see the necessity of taking this advanced step, then it is time for women to take matters into their own hands and protect that which men refuse to do. Again, educate the girls.

I now close with a quotation from John W. Alvord: "The charm of life, that which gives it its zest and meaning, is to do useful work for our time, our place and our generation; to realize that we are needed in the progress of things, and even at times appreciated; to give more than we receive; to place usefulness ahead of emolument; to push the world a little inch up-hill, to plant a flower in everybody's garden but our own."

FUNCTION OF THE DENTIST IN RACE BETTERMENT

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A consideration of this subject calls for a study of the significance of the teeth and mouth as factors in individual and community health. We are rapidly learning the lesson that to better the race we must better the individual, and if we are to better the individual, we must add to his physical, mental and moral efficiency. It has long been recognized, in a general way, that the condition of the teeth has much to do with the health of the individual, but not till recently has the direct relationship between oral hygiene and bodily health been definitely and undeniably traced. We all acknowledge that a poorly nourished body must result in inefficiency, but we have not always studied with sufficient care all of the causes or all of the results of faulty nourishment. This question concerns us most in growing children—not in the growing children of the well-to-do perhaps, so much as those of the great mass of humanity who today are everywhere—particularly in our large cities—being gradually assimilated into our future citizenship.

Let one of these growing children be afflicted with decayed and neglected teeth, what is the result? To say nothing of the suffering which frequently follows with its long train of perverted function and incapacity, we have the immediate result of inefficient mastication. Without mastication we cannot have good digestion, without digestion we cannot have assimilation and without assimilation we cannot have nourishment. Many a child is starving for lack of the necessary apparatus with which to properly prepare the food which is placed before him. And the damage is not merely negative—it may become very positive. The child who is illy nourished intuitively develops a craving for stimulants. Observation has demonstrated the fact that these poor children who are suffering from defective teeth and cannot masticate will consume enormous quantities of coffee or tea if they can get it. And it is not fanciful to go one step further. It may seem a far

ery from defective teeth to drunkenness, and yet it is a possible and a perfectly logical sequence. We are not giving these children a fair chance in the world for place, preferment or race betterment if we permit them to grow up with faulty mouth conditions.

Not only this but there is a quite unsuspected and a very real danger to the individual and to the community as the result of defective teeth and broken down roots left in the jaws. The inevitable abscesses from these roots discharge large quantities of pus to be taken up in the circulation or carried into the stomach or lungs, creating a constant poison which should no longer be ignored. A general infection of the system sometimes results from an abscess on a single tooth, and it is not unusual to have a life lost from this cause. These decayed cavities in teeth also form an ideal culture place for pathogenic micro-organisms, which are a constant menace to the individual as well as to others with whom the individual comes in contact. Cook, of Chicago, demonstrated the tuberculosis bacillus in the roots of pulpless teeth and traced it down through the jaws to the glands of the neck. There is no question that there have been direct tuberculosis infections from this source. One writer has gone so far as to say that 95 per cent of tuberculosis is due directly or indirectly to faulty mouth conditions, that aside from the cases of direct infection from the roots of teeth there are the numberless other cases where the system is rendered susceptible to tuberculosis through inefficient mastication and its consequent train of evils. We all know that the significant thing in tuberculosis is the factor of susceptibility—that practically every individual is exposed to the tubercle bacillus at one time or another on account of its almost universal existence, and that the reason some people escape its ravages is because of their resistance to its encroachment. Let an individual be illy nourished or “run down,” as the phrase is, let the system be impoverished through faulty assimilation so as to develop a lack of tonicity, and the inevitable result is an increased susceptibility to an attack of tuberculosis. The tubercle bacillus seeks a field where the tissues are lowered in tone, and its invasion is usually the result of a lessened resistance through bad air and lack of proper nourishment. Reasoning from this it is not difficult to connect this disease in its incipency with defective and diseased teeth.

In the public schools of Chicago there was at one time an epidemic of scarlet fever. The health department quarantined every child afflicted with the disease the regulation time, and yet scarlet fever kept spreading. It was noticed that immediately following the return of the quarantined children to school new cases developed among their associates and it was clear that in some manner these children were

spreading the disease even after they themselves had long since passed the infective stage. It occurred to the then Commissioner of Health, Dr. W. A. Evans, that there could be only two ways in which this might happen—the child might carry the germs of scarlet fever indefinitely in the tonsils or in the cavities of decayed teeth. His first order was that no child who had suffered from scarlet fever should be permitted to return to school till all decayed teeth were filled and the mouth made hygienic. Immediately scarlet fever was stamped out of the Chicago schools. Precisely the same thing happened in the public schools of Valparaiso, Ind. Doctor Nesbit, the health commissioner, succeeded through a similar regulation in arresting an epidemic of scarlet fever which had persisted for so long a period that it had practically paralyzed the school system of that city.

These instances are only the merest hint of what might be written on the relationship of defective teeth to the community health, but they must suffice for the present occasion, with the passing statement that nowhere in all the realm of medicine is there a more important question than this of oral hygiene or oral sepsis.

If, then, defective teeth are such a prime factor in physical inefficiency it may be well for us to consider briefly the prevalence of this affection. Few people have any conception of the relative number of children who are growing up with bad mouth conditions which prove a handicap to themselves and a menace to the community. In an examination of the teeth of school children in various communities it has been found that at least 90 per cent of them have decayed teeth. In the public schools of Chicago, where nearly 70,000 children have been examined, the percentage runs much higher than this. During the month of November, 1913, there were examined 2,231 children, of whom 2,224 were found with defective teeth. When only seven children out of 2,231 in a given community are found with perfect teeth it is surely time that our civic authorities and our boards of health give some heed to this important matter.

In conducting ten free dental infirmaries in the public school buildings of Chicago where the teeth of poor children are cared for we are brought face to face with the appalling enormity of the need of this service. The waiting lists of children seeking relief, and the verdict of the school principals where the infirmaries are in operation are sufficiently striking to impress even the casual observer with the significance of the work. One principal writes: "We are very enthusiastic over the benefits derived from the work done by the dental dispensary in this school. So far this year, emergency cases and very badly neglected cases have kept the dentist busy every minute of the

school day. Needless to say the improved physical condition of these children has helped them accomplish more in the school room."

Another one says: "I think there is no question about the need of this dental work in the schools and the good that the service is doing. We find that practically all of the children need attention, and that very few of them have received any. Formerly I had to send many children home with toothache. Now I send none."

This gives me the opportunity of remarking parenthetically that if our school boards would spend one-half the amount in a campaign for the amelioration and prevention of disease that they now spend annually for teaching the "repeaters" who are made such by reason of disease, it would not only be more humanitarian but it would be an immense saving financially.

Another consideration in this connection having a direct bearing on race betterment relates to the handicap to the boy or girl who is allowed to grow up with deformities of the mouth and face due to irregular teeth. In this age of keen competition for place and preferment the appearance of the individual so far as physiognomy is concerned has much to do with his prospects for advancement. One striking case came under the writer's observation, and it seems worth relating as illustrative of the point under consideration. In one of the eastern schools for girls there is a most estimable woman endowed by Nature with the mentality and executive ability to be principal of the school, and to wield a large influence in the educational world. Only one thing has prevented her advancement and kept her in a subordinate position. When she was a growing girl some one who had charge of her—let us hope it was not her parents—permitted her to come to womanhood with such an irregularity of her teeth that it was impossible for her to cover her upper anterior teeth with her lip on account of the undue protrusion of the upper incisors. This caused such a deformity of her jaws and face that it detracted immeasurably from the force of character of her countenance, and as one young lady pupil expressed it, "Without quite knowing the reason, somehow you could never imagine her as a principal of a school."

These things give us pause and make us wonder if we have any right to bring children into the world and allow them to grow up with such physical handicaps as shall prevent them from having a fair chance to make their way advantageously in life.

It is to the prevention of disease, the relief of suffering, and the correction of deformities—thus adding to the efficiency and happiness of the individual and the community—that the dentist is committed in his function for the betterment of the race.

UNBIOLOGICAL HABITS

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Even a fish feels the downward pull of civilization and contracts its diseases. In pure fresh water in a state of nature fish are healthy,—in private fish ponds often affected with a sort of goitre. In the hatcheries of Long Island the spread of disease among trout has occasioned much alarm. Dr. Henry B. Ward, Head of the Biological Department of the University of Illinois, and United States fisheries expert for many summers on Lake Michigan and in Alaska, said to me recently that the disease of trout in the Long Island hatcheries is a sort of goitre, a proliferation of the thyroid, a condition of malnutrition, either hyper-nutrition or ab-nutrition due to the lack of adaptation of the food in quantity or quality. The trout are fed on chopped liver.

He stated also that the salmon in a free state in Alaska are free from cancer or any other abnormal growths under the normal conditions which prevail in summer at least. During one summer with the aid of eight Chinese butchers he inspected a half million fish, 10,000 of them himself. The Chinese were paid so much for all specimens reported and a higher rate for small defects. There were deformed fins, evidently due to some mechanical injury, but only two cases of abnormal growths out of a half million, one an esophageal tumor, a benign growth, and the other a tumor of the viscera not of a malignant character, a dropsical mass, a cell proliferation but not cancerous.

The general effect of the domestication of wild animals is to reduce the vital energy and the tonicity of the neuro-muscular system—to subtract spirit, strength, endurance. In case of most diseases of animals no attempt is made to trace them to mankind and to claim immediate human infection. It is an established fact, however, that tuberculosis is transmissible from man to animals and conversely. Cats are a very common carrier of diphtheria and are especially subject to throat troubles. Whatever the inter-relationship of human and animal diseases, it is clear that the same conditions which tend to induce diseases in animals give rise to similar diseases in men; namely, uncleanliness, ill adapted food, undue confinement, and inactivity due to segregation and lack of necessity to seek food.

The first effect of such confinement upon an eagle, a leopard or any other animal of very active habits is to provoke an apathetic, discouraged or sullen attitude which may result in a state of malnutrition and ultimate physical decline or death.

These first ill effects of the captivity of very wild things are patent

to all, but not the permanent racial effects on domesticated animals for the reason that we have become so accustomed to these as not to observe such points. The popular view in fact assumes that contact with man is beneficial, that without his over-lordship the poor things would starve, would revert in type, the fat sleek Jersey and Holstein become wiry, lean, wild cattle, the dog regain his wolfishness, the race horse become a mustang. Usually, however, the loss would be one of size and adaptation of use but would be in the nature of a distinct gain in strength and vitality. The bear or wolf dog is not permitted by the experienced hunter to lie by the fire and fatten, but is exposed to the same battle with Nature as the wolf with which he is to fight and is kept lean and hungry on a moderate diet and by training.

Only in rare cases have men understood the nature of animals sufficiently well to conserve their finest qualities, speed, strength, etc. The intelligent trainer of race horses for example not only feeds but bathes and exercises his horses. All this the wild horse does for himself. Even a cow or a cat keeps the skin clean and hair brushed and the roots active and live.

The last thing a man is learning to do is to restore and conserve his primitive virility and the last and hardest thing he has to learn in method is that this process must be one of return to Nature.

Our whole contention then in the discussion of unbiological habits is against the habits of civilization, and the touchstone used in sifting out the habits that menace vitality, longevity and racial vigor is and always must be, "Is this habit natural? Does it tend to produce the normal individual?"

A man at any moment is but the summation of all that he has thought and done, he is a bundle of habits; function makes structure. Unnatural habits mean degeneration or subtraction from the vital reserves and longevity, and normal habits mean on the other hand development, long life and a stronger heredity for the coming generation.

What is true of one man is true of an aggregation of men, a nationality or a race—with the added fact that social customs involved in segregation are the most important factor in the determination of individual habits. Climate and social habits are principally responsible for racial types; the racial stock doubtless for centuries affects the type thru inheritance of physique and thru traditions as to social customs.

Our country in its natural environment appears more favorable to racial development than European countries. There are differences in development in various parts of the United States which appear to be due to segregation of population more than to climate.

Diseases are more prevalent in states containing large city populations. Nervous diseases so common in cities are quite properly termed diseases of civilization. Incessant noise, foul air, exposure to infectious diseases, excess of food and ill adaptation of the same, the habitual use of stimulants and narcotics and muscular inactivity, are some of the principal causes of race degeneracy in cities.

Dr. B. A. Gould and Dr. J. H. Baxter both observe the physical superiority of American Indians and white descendants of European stock over emigrants from the same countries who enlisted in our Civil War. Baxter demonstrates the physical superiority of recruits from Western and Southern over Eastern states, and the greater prevalence of diseases, especially of nervous diseases, in states containing large city population.

Thru the work of boards of health the death rate is being reduced in some cases below the average for the country. Chicago for example has in the last ten years lowered its death rate to less than the average for the country; in fact, city people are becoming very much better informed as to the laws of health than country people. Only the compulsion of the necessity of covering distances in the every-day round, and the so-called inconveniences of country life which compel physical activity, are responsible for the degree of health possessed by country people. It appears that most men will not do muscular work unless they must. In most ordinary occupations and the daily round there is little or no work for arms and trunk muscles. We are, therefore, poorly developed in the upper body. We still have legs, but autos and street cars are fast depriving us of even these.

Race degeneracy has so touched the brains of some that they are willing to call degeneracy development and to proclaim the evolution of a new race, in which the body becomes attenuated and the head mammoth-like in contrast, as in our newspaper cartoons. But big brains demand good, rich red blood, as much as do muscles, and how may one provide this except thru a big vital system.

The student of any species of life of today is not content with identification and abstract classification of life; he studies it in its relationships, seeks to know its enemies and its friends. The biologist is of necessity also an entomologist and a student of horticulture. Conservation is the watchword of the country. The conventions of the Christmas holidays, whether of the various departments of the American Association for the Advancement of Science in Atlanta, or of the Athletic Associations meeting in New York, were full of the subject of human conservation. It comes to us from every angle, scientific and practical.

Millions have been expended by the United States and state governments in the suppression of hog cholera, the boll-weevil, gypsy moth, etc., but only recently has man awakened to the fact of race degeneracy, and attempted to study himself and to ascertain the unbiological habits which lie at the root of the decline in racial vigor and to remove them.

The first and most obvious realization of forces inimical to life has been that of infectious diseases, diseases communicable by contact and aggravated in their spread by congestion of population. By the elimination of such acute diseases the average length of life has in one generation been increased ten years. Life expectation is now forty years instead of thirty. This is more remarkable when it is remembered that the death rate from diseases of heart, kidneys, lungs and other chronic diseases due to incorrect personal habits has nearly doubled in the same period. More men live to be forty but fewer men live to be sixty and seventy and a hundred.

In searching for the cause for this condition we are led to the conclusion that there is a prevailing lack of vitality or reserve force enabling men to throw off the more virulent germs of disease, and that we are crippled in various ways, locally weakened in lungs, stomach, liver, etc., by unwholesome personal habits.

Low vitality and reserve force are principally responsible for the increase of the more virulent germ diseases, and the prevalence of anemia, neurasthenia, insanity and other so-called diseases of civilization or urbanization. Thru this lowered vitality of people in general we have discovered the physiological effects of various unbiological habits as was not possible when men were as a rule more vigorous.

Ditch diggers, coal heavers, miners or other men who do strong muscular work, perspire freely and live in the open air, may neglect many habits of life which are conducive to health and development, and escape serious illness for many years, but the man leading a sedentary life cannot do so. A man doing heavy muscular work, because of the free perspiration induced by his daily labor, and life in the open air, may be able to keep his skin more or less active without suitable baths, may preserve his teeth thru the chewing of coarse food and throw off the bacilli cultures of the mouth thru the antiseptic strength of the mouth secretions due to his splendid vitality rather than by the use of a tooth brush, may eat an excess of meat, drink a goodly amount of alcohol and escape immediate disease or breakdown, but for any violation of the order of Nature he must suffer a loss of immediate energy which corresponds to his power of resistance. There is no escape from Nature. She exacts her due. If a man takes poisons

into his system thru contracting drug habits, if he overeats (a most common American failing) or eats ill adapted food, he must lose the days or hours necessary to correct the mistake—and these days or hours are not simply lost out of life but are subtracted from life expectation. Nature is inexorable.

Of all the habits which militate against life, the most deleterious is the muscular inactivity which is involved in city life. With the increased specialization of industries and the increase in work done by machinery, few occupations involve any hard muscular work. Urban life makes comfort and convenience and saving time its slogan, makes rapid transportation one of its chief efforts. No man does any work for himself except that connected with his own business, and that is specialized until there is no variety of effort. In few occupations is there any muscular effort left. So much is done by machinery, even in the country, the greater part of the old muscular work of the farm has been eliminated. There is nothing in the city from childhood up to provoke muscularity, strength and organic vigor and everything to encourage the opposite. Inactivity is the most destructive of all unbiological habits. Street cars and autos discourage even walking to and from work. One may obtain a degree of health from the provision of the proper air, water, food, baths, clothing and rest periods, and the prevention of the spread of contagious diseases; in short, by the provision of a wholesome environment, but these negative factors will not produce vigor, reserve force, the power to throw off disease and the power to live long and to perpetuate the race. These can result only thru every-day out-of-door exercise and recreation. Give us back the physical habits of Merrie Old England.

The deteriorating effect of the unbiological habits of our modern civilization upon the heredity, the growth and development of children, is manifested in the decay of the teeth indicating constitutional feebleness, in the great increase in eye disorders, in defects of hearing, adenoids, enlarged tonsils, anemia, chorea, epilepsy, feeble mindedness and other diseases of the nervous system. Over half the children in city schools have some of these defects. The recent investigations in Battle Creek in connection with the Physical and Mental Perfection Contests have demonstrated the possibility of nearly perfect children thru good heredity and proper care. Eugenics and euthenics should be the study of *all* parents.

You will pardon my temerity in summing up a few of the simple things which we all know as affecting the life of the individual and the race:

It is better to have fillings in your teeth than to lose them entirely,

but better still to choose good parents and use a good tooth brush freely and not need the fillings at all.

It is better to take the morning cool bath daily, cleanse the skin and tone up the arteries than to put all the work of elimination on the lungs and kidneys and contract some chronic disease at fifty.

It is better to take time and take it regularly for proper elimination than to suffer fatigue and loss of the power of mental concentration from the reabsorption of poisons into the system.

It is better to stand up straight like a man than to approximate the all-fours habit of our cousins, the apes, and contract spinal curvature, limit vital capacity and suffer ultimately from nervous and lung troubles.

It is better to eat lightly and simply of digestible food rather than to consume half the energy produced by this same food in the processes of preparation for assimilation, better also to abstain from headaches and other symptoms of autointoxication due to wrong feeding. Better to leave the young pig in the mire than to help him out by being compelled to expend your vital energy in his elimination.

It is better to sleep in a close room long and laboriously than not to sleep at all, but best to sleep with windows open wide or out of doors and save an hour of life daily.

It is better to allow yourself some amusement daily for a few minutes at least, but not preferably for several hours in a stuffy theatre or public dance hall until late at night. We Americans are losing our mental poise partly by indulging in the tense exciting things rather than retaining the simple home amusements of our English forebears.

It is better to do resistive exercises in your own room or formal gymnastics in the gymnasium than to get no exercise at all and no neuro-muscular tone, but best of all to get out of doors and work or play where God meant you to be. Men require recreation, relaxation for strong life and long life.

"It is better to marry than to burn," Paul says, but better still to remain single and burn out your life in the service of humanity than to marry without health and without perfect mating. Even the birds know better than this. If wedded life is the most natural and most important matter in the world individual and national, why not prepare for it by seeking the greatest possible physical perfection and mentality and real character and by a study of the nature and function of true love, which is the highest force in all Nature.

THE INCREASE OF INSANITY

JAMES T. SEARCY, A.B., M.D., LL.D., Superintendent Alabama Hospitals for Insane, Tuscaloosa, Alabama.

As our Chairman has said, "It is the unexpected that happens." I would have prepared myself to speak more succinctly and concisely, within ten minutes, on such a subject, if I had known I should have to make a talk.

I am called sometimes down in Alabama the "Head Crazy Man of the State," because I am at the head of about twenty-two hundred insane persons. About eight hundred of them are negroes and about fourteen hundred are whites. My following is increasing faster than any other one class of people in the state.

We feel ourselves discouraged often by the rate of increase of the patients who are coming into the insane hospitals. The population of the state of Alabama, according to the census (during the ten years which the census included), increased sixteen per cent; the admissions into the insane hospitals increased forty-five per cent—sixty per cent increase among the negroes and thirty per cent among the whites.

These are appalling figures, but "misery likes company," and we can parallel them all over the United States—not like them exactly in each state, for they differ. The general population of the United States increased eighteen per cent, and that of the insane hospitals increased twenty-eight per cent during the years of the census. In Alabama we have about two million two hundred thousand people, and we have twenty-two hundred patients in the insane hospitals, or about one patient to every thousand of the population. In Georgia they have one to about seven or eight hundred; in Virginia one to six or seven hundred; in New York, they have one to less than three hundred. In these states up this way (toward Michigan), it is about one to every four hundred or five hundred.

Something is wrong. This increase of insanity is prevailing in civilized countries more than in other countries, and, apparently, the more civilized, the greater the increase. This is evidently the effect of civilization.

The increase of insanity is a perplexing question. A man who is a psychiatrist, in charge of persons of defective brains, is cross-fired from all directions every day with inquiries as to what is the matter. Why is insanity increasing at such a rate?

Insanity represents the extreme end of human deficiency and defectiveness. People in insane hospitals have reached such an extreme grade of mental deficiency and defectiveness that the state has had to interpose and take charge of them. Short of that grade there are

thousands at large, of every grade. Do you know that in the schools in this country there are more children dullards today, not able to keep up with their classes, than there were five years ago? Also there are more wayward boys and bad girls. Among adults, all types of aberrance are increasing. We are building institutions—penal, correctional and charitable—to benefit all these, by placing such people in them. We cannot build them fast enough. We have attempted to relieve the insane hospitals by starting epileptic colonies, reformatories for inebriates, schools for feeble-minded, and many such institutions. They are full. Still the insane hospitals are crying for more room.

I am asked what causes prevail in civilized, more than in other countries, tending to this. One of the reasons, I throw out as a suggestion is that we have been taught to value all human lives alike. All our social work runs on these principles. Those who are defective and deficient reap quick advantage of these opportunities and live to adult life. Then they multiply themselves. Civilization is multiplying the deficient and defective classes in that way—by giving an equal valuation to all alike. In the uncivilized stage of our history they dropped out.

The keynote of this Conference should be to deny that all are alike valuable; to show that there are grades in excellences and in deficiencies; and to show that the hereditary multiplication of the deficient and defective ought to be discouraged in every way.

There is another reason; it is in harmony with a good deal of the talk you have heard here at this Conference.

We have in medicine a line of drugs that are much used; sometimes called “anesthetics” and “anodynes.” These range all the way through a long list. There are chloroform, ether, nitrous oxid, chloral solutions, the alkaloids that we get out of opium, like morphin, codein and heroin, and its solutions, paregoric and laudanum. There are cocaine from cocoa leaves, nicotine from tobacco, alcohol from fermenting material, caffenin from coffee, tea and cola-nuts. The effect of these drugs is to chemically act upon the sensory nerves and brain tracts—because they are more delicate than any other structures. They make a person at first feel better; when he takes them, he likes them; but, secondarily, the repeated use of any one of them impairs these nerve structures to such a degree that he feels generally bad when the drug is withdrawn. The habitual user of any one of them, I don’t care which (whether caffenine, nicotine, alcohol, cocaine, morphine—through the whole list), is dragging a lengthening chain of discomfort, which shows itself when the drug is withdrawn. A drug

habitué is nothing more nor less than a person with that kind of impaired nerve structures. He feels bad from the chemie effects of such a drug and he knows he can take more to relieve it and he does it. Their continued use, as luxuries, is having a general effect throughout all the civilized land. It is producing in this country "dope diatheses." Children are born "feeling bad." A child of parents, both of them, or either of them, taking any of these agents, comes into the world with that kind of discomfited nervous system. He "feels bad," he is "born tired," and takes to the use of these drugs just as readily as a duck takes to water. We are increasing in this country this kind of neurasthenia; it is said to be more prevalent in America than anywhere else. And we are doing it in this very way.

Increasing insanity comes as a final result of bad heredity and drug abuse of the brain, both most prevalent in civilized countries.

THE INCREASE OF INSANITY

PROFESSOR WALTER F. WILLCOX

Almost everybody who has studied insanity believes it is on the increase and at a very alarming rate. I have no desire to question, much less to deny, that statement. At the same time, I think there are reasons for believing that, if it is increasing, the increase is much less rapid than the figures, on their face, would indicate.

For example, several years ago a paper was written by one of the foremost of English statisticians on the increase of insanity in England.* He believed that there was no conclusive evidence, from the statistics, to warrant the inference that insanity was on the increase. The Royal Statistical Society gave the writer a silver medal, on the ground that his was the most valuable statistical paper of the year.

How is it in the United States? No such careful study as was then made by Humphreys has ever been made of the American figures indicating an apparent increase of insanity in the United States. But it should be pointed out (as to some extent qualifying the apparent inference from the facts and figures) that, in the first place, insanity is preëminently a disease of old age, and as a people we are living longer than we did a generation ago; and thus many more people are living into the insanity age; and, in the second place, our whole evidence regarding the increase of insanity refers to its increase in hospitals and other institutions. Many people, who a generation ago or even ten years ago, would have been taken care of in their families and never gone upon the records are now admitted to institutions. They thereby

* Noel A. Humphreys, "The Alleged Increase of Insanity," in Royal Stat. Society, *Journal* LXX (1907), pp. 203-233.

tend to swell the apparent increase of insanity, which after all means simply the increase of recorded insanity.

Whether insanity is on the increase or not, I do not profess to be able to say. All the evidence of the facts and figures indicates that it is, but there are so many qualifications of those figures before one can get their correct interpretation, that I think we need in this country a thoroughly disinterested, competent and qualified study of the subject. I feel sure that, if such a study were made, it would show that the increase that exists, if it does exist, is far less than the increase shown on the face of the figures. I am disposed to say that some increase would be found but nothing like the increase we ordinarily hear about.

DETERIORATION OF THE CIVILIZED WOMAN

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The subject assigned me demands a note of explanation—perhaps I may say warning. I do not believe that modern woman is degenerating or deteriorating. In our estimate of any individual as to his potential ability to obtain happiness for himself and to act for the good of his family, his neighbor, and the state, we recognize roughly certain factors—the moral, the intellectual, and the physical. Recognizing in the abstract (and I may say concretely) in many individuals their close interdependence, we may yet discuss one or another of these factors independently.

In his present state, man's moral side, his intellectual side, and his physical side, each possesses certain elements of varying strength and weakness, and the estimate of any individual, to be impartial, must recognize this fact and take both into account.

It is the purpose of this paper to point out and to describe certain physical defects in civilized women which we must regard as marks of deterioration, since they are largely inherited, and represent a less perfect physical development, less strength, less endurance, and a lessened power to cope with life's problems. These defects in varying degrees are found in a large percentage of our women. I must emphasize at the beginning that in pointing them out we must at the same time recognize woman's splendid intellectual attainments, her superior moral status, and that physically she shows an endurance and strength equal to many of the strenuous demands upon her. In estimating any individual case, we must also recognize her strength as well as her weakness; otherwise we shall err into an unwarranted pessimism. Since, however, these defects interfere with her efficiency and her wel-

fare, they may well be studied in order that we may cope with them more successfully.

The word "deterioration" must not be taken here in any progressive sense. We have no adequate reason for believing that women are more vigorous or less so than for many generations back. We have certain factors in modern civilized life that are tending toward her physical betterment; others that are acting toward impairment. These factors vary greatly among different civilized nations, and still more in different walks of life. More than this, these defects are not confined to civilized women alone, but may be found among those classified as uncivilized, since here also we find certain factors in custom and environment tending to the same end.

It is well that we begin by defining the mature physically ideal woman—ideal from the standpoint of vigor, strength and endurance. We find her in Greek art in the often quoted examples of the Venus de Milo and the Venus de Medici. The impression we obtain at first glance from such figures is that of vigor and strength. The body is sturdy, compact and fully developed. It is well muscled and covered with sufficient fat to round out the angles—in other words, well nourished. From the standpoint of vigor she is perfect, and from the standpoint of beauty the best ideal that art has produced—the two correspond closely.

These figures have, of course, been idealized. In actual life we find but few women who attain this perfection. Many, however, are of the same vigorous type and closely approach it. The thorax is large and deep, and there is plenty of width at the waist line.

I am showing you here a figure taken from a photographic art study. You will note the same characteristics seen in the ideal figures just presented. The body is well developed, strong and well nourished. There is perhaps no better criterion of woman's natural vigor than the size and form of the chest. In women of this type it is large and deep, rendering the upper abdomen of ample capacity.

Modern conditions of life (environment) vary enormously, and it might be seriously questioned whether the physical make-up of which I have been speaking, in its highest degree, is best suited to indoor living and a physically inactive life, for such women as a rule tend to obesity as they approach middle life and develop the troubles attending it; but under circumstances which call for considerable bodily exertion it is well suited. We frequently have women of this type who have cared for their homes, who have reared large families, and have had the ordinary amount of responsibility, care and stress which almost all modern conditions impose, tell us that they rarely if ever have known fatigue or physical distress. Certainly under all conditions of

life a considerable degree of vigor as depicted in these figures shown you is necessary to meet its conditions efficiently and maintain health.

Let us now briefly describe, in its most essential characteristics, another type of woman—a deteriorated type. This is a type or body habit variously named by medical men—the asthenic habit because of her lack of vigor and strength; the neurasthenic habit because of her unstable nervous system; the phthisical habit because of the predisposition to tuberculosis; the enteroptotic habit because her abdominal organs are prolapsed.

Our first impression is that of frailness. She is slender and has but little fat—is in consequence angular. She strikes you as being lacking in vigorous development—her muscles are slender and small. These are the fundamental characteristics of such a woman. Associated with and dependent upon this we find a small, shallow chest, contracted at its lower end and distinctly narrowing the capacity of the upper abdomen. We may note also that the neck, legs and arms are longer than usual. If we examine more closely we may note that the other tissues partake of this same frailness, and that the bones are small. Very characteristic is the softness or flabbiness of her tissues; the skin is of fine texture and the features delicate. It is this delicacy of form and feature, which have accentuated her feminine qualities, that have led artists at different periods of art to regard her as the highest type of beauty.

I am showing you, for example, a picture from the gallery at Dresden, painted during the middle ages. Note the slenderness of the body, the length of the limbs, and the small shallow chest.

Closely coupled with this form is almost constantly found a nervous instability, which is perhaps its most serious feature. It is by no means confined to this type of woman but is here peculiarly difficult to manage.

Another common and more important factor is that she is lacking in muscular development. She fatigues easily and is, therefore, unable to maintain her body in a normal attitude in spite of her lightness in weight. We see this evidenced in round shoulders, an abnormal straightness of the back in the lumbar region, and flat foot. These muscular insufficiencies are not essential parts of her lack of vigor, for under satisfactory hygienic conditions they are often not outspoken. They follow easily, however, when she is subjected to long-continued fatiguing influences.

If we examine the abdominal viscera of this frail type we will invariably find them more or less prolapsed, the prolapse being on the whole proportionate to the degree of body frailness. The kidneys, especially the right, the stomach, and the large intestine are the organs

most affected. The kidneys normally lie, one on either side, high up in the abdomen, beneath the diaphragm at the back. They cannot ordinarily be reached by the examining hand. In these frail women as a rule the right kidney (occasionally the left also) is found to a greater or lesser degree prolapsed, in the pronounced cases even coming to occupy a position over the brim of the pelvis.

By means of the X-ray and the bismuth meal the position of the stomach and the large intestine is easily demonstrated. In all of these frail women we find, as stated, a prolapse of the lower border of the stomach and of the large bowel. The stomach is stretched out, its lower border coming to occupy a much lower position than normally.

This is but a hint at the vast amount of work that has been done by medical men in recent years, seeking to obtain knowledge in regard to the prolapse, its complications, its relation to health, and its relief. The problems are most complex and as yet there is little uniformity of opinion on many of the points involved. Students of the question are agreed, however (first), that a simple prolapse of the abdominal viscera, when unattended by complication, frequently exists without giving rise to trouble; the digestive functions are satisfactorily maintained; (second) that disturbances of digestion with stagnation of food products in the gastro-intestinal tract are frequently associated with the prolapse, and that this disturbance of function gives rise to the gravest consequences as far as the maintenance of the health of the individual is concerned. Numerous mechanical devices in the way of abdominal supporters have been in use for a number of years, and recently a number of operations have been suggested and carried out, with the idea of obtaining relief. In spite of some encouraging results, these operations must be said to be more or less *sub judice*. I speak of this phase of the problem with which we have to deal in frail women, to call attention to its existence and frequent seriousness.

I have pointed out to you the main characteristics of the two types of women, the one reflecting vigor, the other weakness. If we examine a large number of women in various walks of life, we will find usually that each is a mixture of these two types. In a large number of women the defects are so slight or so offset by points of strength as to be inconsequential; in others the points of weakness are so great as to result in marked limitations in her activities—marked suffering or even hopeless invalidism. We may judge each one on several points—First: the sturdiness or frailness of her body; second: the stability of her nervous system or lack of it; third: her state of nutrition and her muscular sufficiency or lack of it.

A frail woman does not necessarily suffer ill health. She may be well in the sense in which we ordinarily use the term. An unusually

good nervous system will often go a long way toward maintaining health and efficiency, and it is common to see such women taking their place in the social system and maintaining it as well as their more vigorous sisters. Taken as a class, however, these women are not as able as others to withstand the strains of life. Care and responsibility, indoor living, overwork, and child-bearing, if carried to any excess, bring her to a state which we may roughly describe as fatigue. In popular speech she breaks down. She develops a train of symptoms as well defined as any of the well-known diseases. She is irritable, nervous and easily fatigued; she develops mental symptoms often designated as neurasthenia; she shows signs of muscular weakness in an abnormal attitude of body; she has disturbances of many of her bodily functions, notably those of digestion, menstruation and urination; also eye and heart symptoms of functional origin, though these less commonly. She has backache, pains in the side and a feeling of weight in the lower abdomen. Many of these frail women are constantly suffering from symptoms which may be placed in one or more of these groups; others easily develop them when under strain and but few if any can withstand it if prolonged. Indoor living or occupation, if the hours are long, is especially harmful unless properly balanced by outdoor living and rest. In the contemplation of industrial conditions, it is these women who should perhaps receive one's first consideration, barring those actually suffering from disease.

As to child-bearing, the worst of these women are manifestly unfit for marriage and child-bearing, but in those of less degree we may not under present social conditions advise against it without grave consideration of all the consequences. Child-bearing and child-rearing are essential to the happiness of the majority of women (though frequently not recognized) and necessary to the development of character, which in turn makes for greater nervous stability. In any instance, however, it is apt to be a severe tax upon her health. This applies not only to child-bearing, but more particularly to the labor of rearing the offspring. These women need careful supervision during this period.

As a class these women do not lack intelligence—in fact, they are more capable mentally than the average. They are certainly not less moral. An active brain, in fact, and an unusual conscientiousness lead them to go far beyond their lessened powers of physical endurance.

If we examine into the early history of the frail woman we will find that, in all marked instances at least, her fundamental characteristics may be traced to childhood, and back of this to her immediate progenitors. The parents and grandparents are one or more of them of like type. This is a fact well known to those who have investigated

the matter, and which I have had occasion to verify by questioning some three hundred women on this point. Of all the factors in making the frail woman what she is, that of heredity is unquestionably the strongest.

Such women have their counterpart in the frail child, with the same fundamental characteristics of slenderness, thinness of muscle, lack of fat and tissue tone, and backwardness in vigorous development. Children vary at different periods of their growth in body form. To bring out these characteristics we may place a frail child alongside of one of vigorous type and similar age.

Up to ten or twelve years of age we find but little evidence of actual prolapse of the organs—the prolapse is not congenital but acquired during adolescence. At about eight years of age, or what is known as the bisexual age, a widening of the pelvis becomes apparent. This increases more rapidly at about puberty, with a corresponding or compensatory narrowing of the waist line. In vigorous women this narrowing is inconsequential. In the frailer ones it is one of the mechanical factors, though by no means the only and most important one, in the displacement of her organs.

We find in these children, the type of which we are speaking, that many show signs of muscular insufficiency in round shoulders, curvature of the spine, and weak foot. I am showing you normal children and then those in whom these deformities are well marked. These abnormalities denoting muscular weakness or insufficiency are not confined to frail children but are very frequent among them, and similar to those found in frail women later in life.

The lesson is obvious. It is safe to say that it will be many years before eugenics will do much to eradicate the frail individual, but a very encouraging fact is that a great deal may be done to better matters by attempts to overcome this child's tendencies. These children need an outdoor life, an abundant, nutritious diet, a correction of their deformities, the removal of offending adenoids and tonsils or other conditions interfering with their nutrition, a regulation of their school duties and exercises graduated to their individual needs. I believe this can best be done through our schools and that when wisely undertaken and carried out on a large scale we will do much to do away with the frail, neurotic woman that now forms such a serious problem in modern life. Intelligent school inspection and the outdoor school already inaugurated in this country will find a most profitable field for its activities when once the frail child is clearly recognized as an important entity and one that must be dealt with during the years of growth.

Old Age

(ACTING CHAIRMAN CREEGAN: Before I call upon the next speaker, I regret to announce that our honored President will be obliged, before the next address is concluded, to leave the hall and make his preparations to return to his home in New York. I am very sure that I speak for this entire body when I say to Doctor Smith that it has been a benediction to all of us to have him with us these days as our presiding officer. I count it one of the honors of my life, Sir, to have the privilege of sitting by your side, to use my voice when yours seemed not to reach to the utmost part of the great hall where our meetings have been held. Your counsel, your planning for these meetings, has been a blessing to us. Your life has been an eventful one. I undertook the other day to make out a memorandum of the various institutions with which you have been connected, and I concluded it was too long to read to this audience. Those of us who came here feeling that we would make our arrangements to retire from active life at seventy or seventy-five, have changed our minds. We have found an example worthy to be copied. Now we want to take you into our confidence and we want to invite ourselves, if you will permit us, to meet you eight years from now when you celebrate your one hundredth anniversary, hale and hearty as you now are with that splendid phenomenal memory untouched by the shafts of time. We want to meet and celebrate that event with you. In the meantime may God's richest blessing rest upon you, our dear friend, and highly honored President.)

PRESIDENT STEPHEN SMITH, M.D., New York, N. Y.

I regret very much that I have engagements that will compel me to leave today and that I cannot remain until the close of the Conference. I wish to express my gratitude to Doctor Creegan for his great kindness in relieving me of the burdens of conducting these great meetings, which I thought probably I had not the voice to meet. That occasion led me to assume the position that befits the occasion that I mentioned in my opening address, the position of silence and meditation.

During the period of this Conference I have enjoyed immensely the discussions that have been going on. The Conference has grown constantly in my estimation in its greatness and especially in its possibilities for the future. It seems to me that it combines in its program and in its purposes about all that is to be done or said in favor of improving the race. I look forward to this as the beginning of perhaps a new era. I think the interest that has been shown here shows the great interest of the public, that the public is ripe for a movement that will probably, as a gentleman said yesterday, "extend throughout the entire country and give a new life to all our efforts for the benefit of the race."

I am congratulated somewhat on my age. When people speak of that, I generally look around to see whom they are talking about. It is a familiar thing to me to be called old. I was reminded of it not long ago in a way that was very pleasant by coming into a crowded car

and having a gray-haired lady some distance away beckon me to take her seat. I told her that I thought I was quite as capable of standing as she was, but she insisted, so I took the seat and bowed her my acknowledgment.

An old lady patient came to me the other day. I met her at a gathering. I think she is past eighty. She seemed trembly and very much excited and had not seen me for several years and wanted to know how I maintained such health at such an age, and I said, "I never talk with old people." And there is a great deal more in that perhaps than you are aware of. I realize, at any rate, that the way to keep healthy and strong and well and alive and live long is to live in the age that you are living. Shut the door behind you. As Paul said, "Forget the things of the past and enjoy the things of the present and the future" and especially look forward to the development of the future.

In a more serious way, I am sometimes asked what my course of life has been, what I would advise anyone else to do, to live long. I say, "Be sick the first fifty years of your life and be compelled to live on milk and the next fifty years you will probably be compelled to enjoy life, and long life too." That is pretty nearly my history.

I do not think I saw a well day from the time I had any consciousness of life until I was about sixty, when a little event occurred that I might perhaps mention here, although it reflects somewhat upon discussions of alcohol and possibly some may take the prescription. I do not mention it very often to young people. I was invited by President Cleveland to be one of the free delegates to the International Sanitary Conference that met in Paris in 1894. I had always suffered so much from indigestion, and had to be so very choicer of what I ate and so largely of the simplest kind of diet that I was opposed at first to going. But under some urging I went abroad—satisfied I could not live long on French cooking and especially to attend the great French dinners that I knew I should have to attend. I went, and the dinners began. We certainly had about twenty or thirty courses and about three hundred persons in the dining room. After each course wine was served. Well I never could drink wine, it always made me very sick and the menu was of a kind that did not appeal to me at all, one that I could not endure—at any rate for three months, during the time I was to be there. The first dinner we had there was by President Parnot at the Palais de l'Hygiene and I saw then what my fate was to be. These long dinners with so many courses and so much wine were something I could not endure at all. At the second dinner given by Madame Cornell the next day, or rather breakfast at twelve o'clock, I found seated next to me a prominent physician of

Paris whose writings I was familiar with. I thought I would ask him what my course should be. I found he could speak a little English and I a little French and we got along very well together. I finally turned to him and said, "Doctor, I am an old dyspeptic and I don't see how I am going to live through these dinners. I can't partake of them on account of so many courses, so much wine, etc." "Oh," he said, "I can help you out. We have a perfect understanding about that. These dinners are all scientifically arranged. Every particle of food put on the table is scientifically prepared for the occasion and the wine that is used after each one will digest that food before the next course comes on. So you need not be afraid of having any difficulty." He said, "You follow my prescription and you will get on perfectly well." I told him that was a very pleasant prescription. I didn't want to drink any water, for they were using it from the Seine, which at that time was said to be very foul. So I consented. I drank every wine that was brought on—and I have had no dyspepsia since!

With reference to old age, I wish to say that old age has a great many amenities and a great many enjoyments. I sometimes tell my friends I wish I could feel the weight of years for an hour or two to see how it seems. You are disposed to say, "Pity the sorrows of a poor old man," but they are very few compared with what I anticipated. I find we have a great many sources of happiness, a great many sources of enjoyment. I was interested not long ago in reading an anecdote of Whittier and Holmes, the poets. Whittier was four years older than Holmes and when he became eighty years old, Holmes wrote a very witty poem, asking Whittier how it looked from that high ground, "what is there in the future that you see," and Whittier replied with a poem stating that it was perfectly beautiful from that point. There was no more hill climbing. It was all down hill, very pleasant and for him to hurry to come up to that point where he could enjoy with him the age of eighty. I remember an anecdote of Victor Hugo which was very interesting. When he reached the age of seventy, he said he was very much depressed. He could scarcely write and for ten years that followed him, that sense of depression, but at eighty everything brightened and he became exceedingly interested in all his work, and renewed it. He began to philosophize, and to wonder what had happened, and what was the explanation of this, and finally concluded that at seventy he had reached the old age of youth and at eighty he had reached the youth of old age. I think I have experienced that very decidedly. But after all, the question has risen why we live to be old, why we can live. I believe it is within the province of every one, but I think with myself it was heredity; it was having a good father and mother. My mother died at ninety-seven and I have a

sister at ninety-seven now. With this heredity we had led the simple life, avoided everything that tends to lower the vitality later in life. One must do everything possible to save the stock of vitality one has, the stock in trade. You are born with a certain amount and you can use it up very early or you can prolong life very much longer than people ordinarily do.

So I think that if we escape the chloroformist at sixty that Osler has provided for us and can reach the age of seventy and are then careful with our habits and our work, we can reach the age of eighty—where that old pessimist Moses said it would be labor and sorrow, which I did not find to be the case. If we still continue to be careful of ourselves we can reach ninety, and from ninety by the grace of God with the last words of Irving on our lips, “we can pass into Thy hands, O Lord.”

(ACTING CHAIRMAN CREEGAN: Probably not one of us here has ever witnessed such a scene before, a man ninety-two years of age being at every meeting, staying here last night for three hours, refusing to use the elevator, climbing four flights of stairs every day! But what an example he has been to all of us. The younger men and women who are here will live to see the day when nobody is going to marvel if a man one hundred years old should be present at this meeting or some similar meeting and perform his duties as presiding officer.)

SERVICE

ACTING CHAIRMAN REVEREND CHARLES C. CREEGAN, D.D., President Fargo College, Fargo, N. D.

The object of this gathering is one that takes hold of my mind and moves my heart and when I was asked to come all the way from North Dakota, a distance of about a thousand miles, to attend this Conference, I did not hesitate at all to respond to the call. I feel that the time has come for a plain speech along these various lines; the time has come when we all want to put ourselves on record against the open saloon, against the liquor traffic in every particular; the time has come when we want to learn, if we do not now know, better methods of living.

When I see men like my venerable friend here at the right more than ninety years of age, hale and hearty, with a phenomenal memory, today practically as good, I suppose, as he was when he was forty, I ask the question, Why is it we do not have scores and hundreds of men in the country and women, too, who have memories like his and can climb four flights of stairs and insist upon doing it as he has been insisting upon doing it ever since he has been here? Why can't we do

it? What right is there for any man to assert that we must die when we are thirty-five, forty, fifty or even when seventy? No man has a right to say anything of the kind. I have come to believe that we ought to live. If we have made up our minds for various reasons that we are not prepared to do it, we ought to teach our children and our grandchildren so that they may expect to live in the neighborhood of one hundred years and to have those years full of splendid living and beautiful characters.

One of the biggest words in the English language or any other language is "service," and oh what fields for service open up as we hear these various papers and the addresses that have been delivered since this Conference began. Service! service! along so many lines! We cannot sit down at a table anywhere, in a hotel or restaurant, without seeing that multitudes of people have not learned the first lesson in regard to right living. You can see that the food they eat for, the food they have before them, the way they eat their food and all that sort of thing indicates that they have not learned those first principles.

I have a growing feeling that this institution has come at the right time. There was a time when I had a very great prejudice against it. It was not until seven years ago that I would consent to come and see it. When Doctor Kellogg invited me on a special occasion to come here and deliver an address, my prejudice gradually began to shake away, and I have visited the institution as frequently as I could since. I have never been an invalid in all my life and I have not needed the institution for that reason, but I have needed it because I knew that there were certain things that I needed to learn. I have been learning them here and so have you.

Now let us make this Conference a great success. Do you think I am right when I say that up to the present moment, it has been a wonderful success? What splendid papers we have had!—What magnificent and eloquent addresses! How they give the true ring! What a great privilege this has been to all of us, and when we go back home every single one of us, women as well as men, will be practical missionaries to the spirit, to spread the tidings and to make this world in which we live more like that we pray for when we say, "Thy kingdom come, Thy will be done on earth as it is in heaven." I have quit worrying myself about how heaven is going to be, how beautiful it is, what sort of trumpet I am going to blow. I don't care a rap about it. It is going to be all right if I am lucky enough to get there. What I want is to see that I live right here, and that the kingdom of God comes right down here in my heart and that I help so far as I have any influence to make earth like unto heaven.

ALCOHOL AND TOBACCO

THE EFFECT OF ALCOHOL ON LONGEVITY

ARTHUR HUNTER, Vice-President Actuarial Society of America, Actuary
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A good way to determine the interest taken in the subject of alcohol is to inspect the indexes of some of our great public libraries. Tens of thousands of books and articles have been written on the effect of alcohol on mankind, and on the legislative and other problems connected therewith. It is a serious task to read even the writings of prominent scientists on this subject. Before dealing with the effect on longevity, it may be of interest to give the results of my study of many articles on the use of alcohol.

The experiments of Atwater, Reid Hunt, and others indicate that alcohol, in moderate quantities, is a food. This point of view "is almost universally accepted by physiologists, and the drift of opinion is certainly toward the view that alcohol is in all respects strictly analogous to sugar and fats, provided always that the amount used does not exceed that easily oxidized by the body." It is, however, generally considered as a dangerous food, and in this connection it should be borne in mind that the laboratory experiments do not represent the conditions as they exist in every-day life. They do not properly allow for the increasing need and desire for alcohol, and for its taking the place very largely of solid food among excessive users.

A large number of experiments have been made by Partridge, Kraepelin, Rivers, and many others, into the effect of small doses of alcohol upon muscular power and mental efficiency. On human beings it seems to have been conclusively demonstrated that even small doses of alcohol have a detrimental effect on muscular power. "The laborer who gains his livelihood by the strength of his arm destroys by the use of alcohol the very foundations of his efficiency." Noted army officers, such as Grenfell, Kitchener, and Roberts, of Britain, von Haeseler, of Germany, Wahlberg, of Finland, have testified to the fact that the abstainers from alcohol can stand far more hard work than those who drink in moderation. Their experience is based on keen observation of soldiers engaged in warfare. Doctor Parkes divided a number of soldiers into two gangs, each as nearly like the other in all respects as was practicable. The men in one gang had beer placed at their disposal, while those in the other were

limited to non-alcoholic drinks. The men in each group were paid according to the amount of work accomplished. The non-alcoholic gang did far more work in the day than the alcoholic group, although the former did less work than the latter in the earlier hours. The men who had formerly taken beer at their work were asked to discontinue using it, and those in the non-alcoholic gang were asked to use beer. Again, the non-alcoholic gang did more work than those who drank beer, showing that it was not the superior stamina of the men in the first experiment which had determined the amount of work accomplished. In this, as in many other tests, it was noted that those who took alcohol did more work in the early hours than those who abstained, but at the end of the day the results were reversed. The pleasant, buoyant feeling which alcohol gives is probably the basis of the popular belief that more work can be done with it than without it—a belief which is not supported by the facts.

With regard to mental efficiency, there seems little doubt that a deadening influence on the mental processes is produced by alcohol, even in small quantities. For instance, Kraepelin makes the following statement:

“The powers of conception and judgment are from the beginning distinctly affected, although he who takes alcohol is quite unconscious that it has this effect. I must confess that my own experiments, extending over more than ten years, and the theoretical deductions therefrom, have made me an opponent of alcohol.”

Herbert Spencer remarks that “incipient intoxication, the feeling of being jolly, shows itself in failure to form involved and abstract relation of ideas.” Tests made of translating from one language to another, of rifle shooting, of adding figures, of writing, of memory, etc., showed a marked loss of efficiency through small doses of alcohol. The Rosanoffs concluded, after certain experiments with small doses of alcohol, that it impairs every human faculty which has been tested, and that the higher and more complex the faculty, the more pronounced is the effect.

Turning now to the opinion of the medical profession, we find that surgeons dread operations on alcoholic patients; that alcohol is generally believed to interfere with the production of immunity against specific infectious diseases; that it plays an important part in bringing about degeneration of nerves, muscles, and epithelial cells. “In my experience of nervous and mental diseases,” says Dr. T. B. Hyslop, “I am of the opinion that alcohol is of little or no use except in some cases where it may be administered as a temporary experiment to overcome a crisis. The rôle of alcohol in the nervous and mental economy is, in the healthy individual, an evil one.”

Alcohol is not now considered a true stimulant. Sir Horace Horsley says that it is a narcotic; that in all its forms it has a prolonged depressant after-stage; and that like other narcotics it possesses the transitory so-called "stimulant" properties.

All these experiments and experiences indicate that the use of alcohol probably shortens life, but in order to demonstrate this it will be necessary to compare the longevity of two groups under precisely similar conditions: one of abstainers, and the other of non-abstainers. To obtain two such groups is impossible, because so many factors must be considered, such as nationality, habitat, diet, climate, occupation, etc. For example, it would not be proper to compare a group of abstainers who were heavy eaters with a group of moderate users of alcohol who were abstemious in their diet, although all other factors were the same.

While it is practically impossible to obtain statistics regarding mortality for two groups of men alike in every other respect with the exception of the use of alcohol, a comparison on a fairly satisfactory basis may be made of men insured in life insurance companies. The statistics on some of these classes enable us to reach certain broad conclusions regarding the effect of alcohol on longevity, but it is not claimed that the extra mortality which will be shown to exist in many classes is due solely to the use of alcohol.

During the last three years, under the title of the Medico-Actuarial Mortality Investigation, the Actuarial Society of America and the Association of Life Insurance Medical Directors have been conducting an investigation into various classes of lives insured during 1885 to 1909 in forty-three of the leading life insurance companies of the United States and Canada. The classes investigated included persons in hazardous occupations, those with defects in physical condition, in family history, or in personal history, those who were overweight or underweight, etc. The investigation is based on the history of over 2,000,000 lives. Three volumes of the results have already been published, and the fourth volume is in the press. At this time I shall deal only with several occupations connected with the manufacture and sale of alcohol, and with certain classes of men not in these occupations, but who formerly used alcohol immoderately, or were steady users of it at the time the insurance was issued.

Before presenting the results of this investigation, it is necessary to consider a standard of measurement for mortality. Just as in measuring height a standard foot has been chosen, for weight a standard pound, so for measuring relative mortality we have a standard mortality table showing the number of deaths per thousand at each age. This standard table represents the aver-

age mortality for each age and for each year of insurance among persons insured at the regular rates of premium. For example, the tabular mortality among a group of men aged 37 in the first year of insurance would be 41 per 10,000, whereas under a group of the same age (37) who had been insured ten years before, at the age of 27, it would be 53 per 10,000. While the attained ages are the same, the mortality is different in the two groups because one group had been medically examined within a year, and the other ten years before. These sets of ratios are applied to the classes under investigation, and the expected or tabular deaths are calculated. Thus, if there were a group of 5,000 saloon-keepers insured one year ago at age 37, the expected mortality would be 20.5, i. e., 5,000 at the tabular death rate of 4.1 per 1,000, and this would be compared with the actual deaths. Should the actual deaths in the group be 31, then the actual mortality would be 150 per cent of the expected or tabular, according to the average mortality of the various companies on standard lives who were not engaged in hazardous occupations. A ratio of actual to expected deaths of 150 per cent means 50 per cent in excess of the normal mortality; 175 per cent means 75 per cent in excess of the normal mortality; and 200 per cent, 100 per cent in excess, or double the normal mortality by the standard table.

Another way of interpreting these ratios is to consider 100 as the number of deaths which would normally be expected, so that if the ratio of actual to expected deaths were 150 per cent, there would be 150 deaths, whereas, in a similar group of normal lives there would have been only 100.

The statistics of the Medico-Actuarial Mortality Investigation described herein were based on men who were resident in the United States or Canada at the date of application for insurance, and the results, therefore, relate to the effect of the use of alcohol in the temperate zone. There are no similar statistics with regard to tropical countries, and, accordingly, the conclusions of Major Woodruff regarding the beneficial effect of alcohol in the tropics are neither confirmed nor disproved by the statistics contained in this paper.

In all the classes connected with the liquor trade, which will be brought to your attention, the men insured in the different companies did not drink immoderately at the date of application for insurance. The high mortality in this trade cannot be ascribed to the inclusion of men whose habits were bad: many of them undoubtedly, however, succumbed to temptation some time after the policy was issued.

In accepting for insurance the men in the liquor business, the companies were generally as severe in their selection as in that gov-

erning the acceptance of persons in non-hazardous occupations; in fact, the statistics prepared by the Committee indicate that the companies accepted for insurance men engaged in unfavorable or doubtful occupations less freely than those in non-hazardous occupations.

The first group of occupations with which I shall deal is that connected with the serving of liquor. The group covering Saloons also includes Billiard Rooms, Pool Rooms, and Bowling Alleys in which there is a bar:

<i>SALOONS:</i>	<i>Actual Deaths</i>	<i>Expected Deaths</i>	<i>Ratio of Actual to Expected Deaths</i>	<i>Extra Mortality</i>
Proprietors and Managers <i>not</i> attending bar	222	122	182 %	82 %
Proprietors and Managers attending bar	830	479	173 %	73 %

HOTELS WITH BAR:

Proprietors, Superintendents and Managers attending bar	519	292	178 %	78 %
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It will be noted in the foregoing that the mortality is higher among the proprietors and managers of saloons who stated that they did not attend bar than among those who admitted attending bar; and that the mortality among hotel-keepers attending bar is practically the same as among saloon-keepers. There were fully 22,000 cases in the above classes—a number large enough to give reliable results.

In the following two occupations the policy-holders did not attend bar:

<i>HOTELS WITH BAR:</i>	<i>Actual Deaths</i>	<i>Expected Deaths</i>	<i>Ratio of Actual to Expected Deaths</i>	<i>Extra Mortality</i>
Proprietors, Superintendents and Managers <i>not</i> attending bar	529	392	135 %	35 %

RESTAURANTS WITH BAR:

Proprietors, Superintendents and Managers <i>not</i> attending bar	105	69	152 %	52 %
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It is apparent that where liquor may be had freely, there is danger to the men who may have it without price.

It is unnecessary to give examples of all occupations connected with the liquor trade, but the following two large groups, containing the records of men insured under 15,000 policies, are of particular interest:

<i>BREWERIES:</i>	<i>Actual Deaths</i>	<i>Expected Deaths</i>	<i>Ratio of Actual to Expected Deaths</i>	<i>Extra Mortality</i>
Proprietors, Managers and Superintendents	483	359	135 %	35 %

WHOLESALE LIQUOR HOUSES:

Proprietors and Managers	992	811	122 %	22 %
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It is freely recognized that there is a considerable difference between the various types of breweries and between the duties of those in charge of the various wholesale houses. If these two classes were broken up into more homogeneous groups, the mortality would

range from normal to twice the normal, depending on the habits of the men and their specific work. The loss of life may be readily seen in the case of wholesale liquor merchants. If these proprietors and managers had been in a non-hazardous occupation, there would have been about 180 less deaths during the period under observation.

Other classes have been investigated, such as clerks in breweries, traveling salesmen, clerks in wholesale liquor houses, etc. In every instance the mortality was higher than among lives in non-hazardous occupations, with the single exception of the proprietors, managers, and superintendents of distilleries.

Valuable information regarding the influence of occupation on mortality may sometimes be obtained from a study of the causes of death. A standard of comparison is necessary, and this is obtained by tabulating the causes of death among a large group of persons who had been accepted by life insurance companies at the regular rates of premium—that is, who were considered standard or average lives. From such a group the normal death rate from each cause is deduced, and a comparison can then be made with the actual death rates in the class under investigation. Thus, the normal annual death rate from tuberculosis of the lungs at age 35 is about 8 per 10,000 exposed to risk of death, and if, in a specific occupation, the death rate were found to be 16, it would be twice the normal. The causes of death in the occupation classes just dealt with show distinctly the effect of alcohol. For example, among the hotel proprietors, superintendents and managers who attend bar, the death rate from cirrhosis of the liver was six times the normal; from diabetes and Bright's disease, three times the normal; and from apoplexy, heart disease and pneumonia, twice the normal. Unquestionably, some of the excess mortality among those in the liquor trade is due to the long hours and other unsatisfactory conditions, but the greater part of the excess is due to the contact with alcohol in its various seductive forms.

In the reports on the Medico-Actuarial Mortality Investigation, there appears the mortality among several classes of men who have used alcohol to an immoderate extent in the past, but who were not in the liquor trade at date of insurance. None of the cases, therefore, in the groups now to be considered entered into the classes which have already been considered.

HISTORY OF OCCASIONAL EXCESSES

The forty-three companies in the Medico-Actuarial Investigation issued during a period of twenty-five years about 5,800 policies at

the regular premium rate on men who had a history of occasional alcoholic excesses in the past and who were not in hazardous occupations (including as hazardous occupations the manufacture and sale of alcohol). The great majority of men with this history who applied for insurance were declined, and, accordingly, the classes consisted of the very best of the applicants, so far as the companies were able to determine. Notwithstanding this extreme care in selection, the mortality was high, as may be seen from the following synopsis:

	<i>Actual Deaths</i>	<i>Expected Deaths</i>	<i>Ratio of Actual to Expected Deaths</i>	<i>Extra Mortality</i>
Occasional alcoholic excesses, the last <i>within</i> five years of the date of application for insurance	110	67	164%	64%
Occasional alcoholic excesses, the last <i>more</i> than five years prior to the date of application for insurance . . .	58	40	145%	45%
An excess at an <i>indefinite</i> time in the past	121	83	146%	46%

The heavy extra mortality, averaging 52 per cent, is not due solely to excesses in the past only, but arises partly from excesses after the policy was taken out. A proportion of those who had exceeded the limits of moderation in the past undoubtedly became heavy drinkers at some time after the policy was issued.

FORMERLY INTEMPERATE, REFORMED WITHOUT TREATMENT

Another class consisted of those whose habits were formerly intemperate as to alcohol, but who had reformed without any treatment, and who were in non-hazardous occupations. This class also consists of the best types only of risks presented to the companies, cases where there was reasonable assurance that the satisfactory habits at date of application for insurance would be likely to continue. The statistics are divided according to time elapsed since the habits were intemperate.

	<i>Actual Deaths</i>	<i>Expected Deaths</i>	<i>Ratio of Actual to Expected Deaths</i>	<i>Extra Mortality</i>
The last record of intemperate habits <i>within</i> five years of date of application for insurance	150	113	133%	33%
The last record of intemperate habits <i>more</i> than five years from date of application for insurance	154	137	112%	12%

It may be inferred from the foregoing figures that the longer the time elapsed since the habits were intemperate, the more prospect there is of a permanent cure.

TAKEN CURE FOR ALCOHOLIC HABITS, TOTAL ABSTAINER SINCE CURE

This was not a sufficiently large class to justify a division according to time elapsed since alcohol was taken to an immoderate extent.

The following, therefore, shows all cases in which the habits were unsatisfactory at least two years prior to date of application:

	<i>Actual Deaths</i>	<i>Expected Deaths</i>	<i>Ratio of Actual to Expected Deaths</i>	<i>Extra Mortality</i>
Record of intemperate habits at least two years prior to application; policy holders took cure for alcoholic habits, and had been total abstainers since cure up to date of application for insurance	79	58	136%	36%

The mortality among those who had taken a cure and were total abstainers from that time to date of application for insurance was somewhat higher than among those who reformed without treatment. It should not be deduced therefrom that the alcoholic cures are not of value; it is probable that those who had taken a cure had used alcohol more freely than those who had reformed without such a cure, and also that the men in the latter class may have been stronger-minded than in the former. The companies hoped to determine the mortality among men who had taken the cure for alcoholism and had not been total abstainers since the cure, but the number of cases was too small to justify an investigation.

STEADY USE OF ALCOHOL

Another interesting class of men investigated by the Actuarial Society and the Medical Directors' Association is that comprising those who were designated "steady, free users" of alcohol. In collecting the statistics, the decision as to the cases which would properly fall within this designation was left to the judgment of the individual companies. As a result, the type of cases placed in this class was found to vary to a considerable extent, depending largely on the view of the medical directors, and the class was accordingly divided into two groups. In one group ("Liberal") were placed all the cases in which the companies had used as a test Anstie's limit of two ounces of alcohol in a day; and in the other ("Conservative"), those which considered less than Anstie's limit as constituting a steady free use. In the "Conservative" section appear the cases where two glasses of beer or one glass of whiskey daily was considered a steady, free use, although few persons would consider such a quantity as a *free* use of alcohol. (In a publication of a prominent insurance company, the equivalent of Anstie's limit is stated to be two wineglasses of sherry or other strong wine, one pint of champagne, three tumblersful of strong ale, or five tumblersful of beer.) The following shows the results of the subdivision:

	<i>Actual Deaths</i>	<i>Expected Deaths</i>	<i>Ratio of Actual to Expected Deaths</i>	<i>Extra Mortality</i>
"Conservative": Interpretation—steady, but very moderate use	1,725	1,460	118%	18%
"Liberal": Interpretation—steady, free, but not immoderate use	698	374	187%	87%

There can be no better evidence in my opinion of the bad effects of alcohol on longevity than the foregoing. These classes do not constitute men who were immoderate drinkers at the date of application, or whose standing in the community was bad. They were all men considered to be entitled to policies without extra premium by the insurance companies, their habits not being considered a serious detriment. Yet the extra mortality among those who used two ounces or more of alcohol a day was 87 per cent, and the causes of death showed that the death rate from cirrhosis of the liver was five times the normal, and from diabetes, tuberculosis, pneumonia, and suicide, twice the normal. The mortality among saloon-keepers whose habits were satisfactory at the time the policy was issued was slightly lower than among men not connected with the manufacture or sale of alcohol who took two or more ounces of alcohol each day, but who were not considered immoderate drinkers.

In the foregoing presentation I have included all classes entering into the Medico-Actuarial Mortality Investigation which were composed of persons who were free users of alcohol at the time of insuring, or had previously been immoderate users of alcohol. The Medico-Actuarial Investigation included thirteen classes of persons connected with the manufacture or sale of alcohol, and only one of these classes showed a mortality as low as the normal (Managers and Proprietors of Distilleries). It is evident, therefore, that the presentation here made is not unduly unfavorable.

MORTALITY AMONG ABSTAINERS

It may interest abstainers to know that in 1840 an application was received by an English insurance company for a policy on the life of an abstainer, and the directors of the company decided to charge 10 per cent more than the ordinary premium because they looked upon the applicant as "thin and watery, and as mentally cranked in that he repudiated the good creatures of God as found in alcoholic drinks." As the result of this action, he, with his friends, founded the first temperance insurance company in Britain, and himself lived to the age of 82.

There has been published only one comparison between abstainers and non-abstainers, based on the experience among the insured in an American company, and this was presented by the New England Mutual Life Insurance Company. The insured were divided into four classes: (1) Total abstainer; (2) Rarely use; (3) Temperate; and (4) Moderate. The standard used in testing the mortality was the American Table, which is generally the basis for the calculation

of premiums. The following shows the approximate percentages of that table:

Total abstainer.....	59%
Rarely use.....	71%
Temperate	84%
Moderate	125%

According to the above table, the moderate drinkers had twice as high a mortality as the total abstainers. There have been no other data published in recent years in this country of the experience of life insurance companies with abstainers, except that published by the Security Mutual Life Insurance Company, of Binghamton, N. Y. Unfortunately, a comparison was not made of non-abstainers with abstainers, but the mortality among the latter was very low, and, so far as may be judged, much lower than among the general insured of the company. The following is a synopsis of the published experience of insurance companies in other English-speaking countries:

	<i>Mortality of General or Non-Abstainer Section compared with that of Abstainer Section.</i>	<i>Approximate excess of mortality among Non-Abstainers over Abstainers.</i>
United Kingdom Temperance and General Provident Institution (England), experience from 1866 to 1910.....	135%	35%
Sceptre Life Assurance Company (England), experience from 1884 to 1910..	150	50
Scottish Temperance Life Assurance Company (Scotland), experience from 1883 to 1907	140	40
Australian Temperance and General Life Assurance Society (Australia), experience from 1900 to 1910	160	60
Manufacturers Life Insurance Company (Canada), experience from 1902 to 1910	175	75

From the non-abstainer section were excluded those who were known to drink immoderately at the date of application for insurance.

There is conclusive proof in these figures that those who are total abstainers live much longer on the average than those who are non-abstainers. It must not be assumed, however, that the very low mortality of the total abstainers is due solely to their abstinence from alcohol. Dr. Dwight, the Medical Director of the New England Mutual Life Insurance Company, points out that the mortality among men who are total abstainers from alcohol is practically the same as among men who are total abstainers from tobacco, and that, generally speaking, the same body of men are included in these two classes. There are other factors which enter into this matter, such as these: (1) abstainers are proportionately oftener found in non-hazardous occupations than in hazardous. For example, there would be a larger proportion of clergymen, who have normally a very low

mortality, among the abstainers than among the moderate drinkers; (2) the conditions which surround the home life may be better among the abstainers than among the non-abstainers, and there may not be the same temptation to the former to devote a large amount of time to club life; (3) a man who is a crank on one subject is likely to be a careful liver. (A crank, says O. W. Holmes, is a man who does his own thinking.) An abstainer and non-smoker is probably abstemious in his diet, and lives in the open air as much as possible. It has also been suggested that those who are total abstainers are so because they are vigorous and active and do not feel the necessity for stimulants, whereas those who are not total abstainers might not be quite equal in physique. There is not a consensus of opinion in this matter, however, the President of the United Kingdom Temperance and General Provident Institution of Britain giving his opinion that there was little foundation for the belief that the better mortality among the abstainers is due to their generally careful, quiet, methodical mode of life. He believes that, other things being equal, abstinence from the use of alcoholic liquors as beverages is conducive to health, and promotes longevity. He states that a large number of persons come before him, and that he would defy anyone who saw them to say which was the abstainer and which was the non-abstainer unless he had the record before him; "they lived in the same town, they worked at the same occupation, they had the same rate of income, they were practically the same kind of person."

Unfortunately, there are no statistics in existence of two bodies of men exactly alike in every particular with the single exception that one group consists of total abstainers and the other of moderate users of alcohol. Yet, as there is always the temptation to drink to excess among moderate users of alcohol, and this temptation a proportion of them will not be able to resist, we may say with assurance that a body of abstainers would have a longer life-time on the average than a body of non-abstainers alike in all respects except as to the use of alcohol. "There is no more perplexing problem of individual psychology and physiology than the subtle differences which make it possible for one man to drink moderately throughout life without danger of excess, while another, apparently as well constituted and living under as favorable conditions, perishes in the presence of alcohol." (Partridge.)

I have been in the actuarial profession for over twenty years, and have had the opportunity of studying, not only the published statistics, but many private investigations. I cannot recall a single large class of men or women using alcohol freely but not immod-

erately at the date of application for insurance, or who had used it in excess formerly and were now temperate, that did not have a higher mortality than the normal. While not a total abstainer, I am convinced that it would be immeasurably better for this, or any other country, to have the production and sale of alcoholic liquors abolished if it were practicable. The advantages claimed for alcohol are a small offset, in my judgment, to the evils which proceed from its use and its abuse.

ALCOHOL—WHAT SHALL WE DO ABOUT IT?

HENRY SMITH WILLIAMS, LL.D., M.D., New York, N. Y.

I should like at the outset to subscribe to every word that Mr. Hunter has told us about the effects of alcohol. I should like also to subscribe very fully to the optimistic point of view that he presented at the close. I, too, am an optimist. I, too, believe things are not nearly so bad as they might be and that they are going to be very much better.

But at the same time in regard to this matter of alcohol, we are confronted with some very unpleasant statistics. I shall subscribe a third time to what he said about the unreliability of statistics, but the few that I must give you I think are authentic. They refer merely to quantities of alcohol that are being consumed. He spoke of the attitude of insurance companies in 1840. Now it chanced that in 1840, the time of our grandparents, the amount of alcohol consumed in this country per capita each year was just under four gallons, specifically two and one-half gallons of distilled spirits and one and one-third of malted beverages, something less than four gallons. Last year for the fiscal year ending June 30, 1913, the per capita consumption of alcoholic beverages in this country was something over twenty-three gallons; that is to say, there were almost six times as much alcoholic beverages consumed last year as in 1840. Let me at once point out, however, that the case is not quite as bad as it seems, for, of course, we all know that last year and now-a-days we are consuming a great deal more beer, in proportion, and a great deal less whiskey in proportion. We know also that the detrimental effect of alcoholic beverages depends very largely and perhaps entirely on its alcoholic content, and that whereas whiskey or distilled liquors have thirty, usually forty or forty-five, up to sixty per cent of alcohol, the malted beverages have only from two to six per cent. Nevertheless, if we reduce the amount of liquor consumed last year to terms of

alcohol, and make the same reduction for the liquor consumed in 1840, we find that there was a larger consumption of absolute alcohol last year in America than in 1840.

That is a fact of almost appalling significance, at least when we reflect that seventy-three years of effort have been made to combat alcohol. At the end of that time we are consuming more than we did at the beginning. The tide of alcohol has risen, decade by decade. There has been no decade since 1840 when the per capita consumption has not been greater than it was in the preceding decade.

The statistics regarding the rise are very clear because they are based, of course, on the government records. The payment of an internal revenue tax must be made, so that the alcohol statistics are among the few statistics that we can really trust, I think. It seems that in 1896 the per capita consumption of distilled liquors in the United States was about eighty-six hundredths of a gallon per capita. Last year it was one and a half gallons per capita. There was a notable falling off in 1908, and some of us were deluded into hoping that the crest of the wave had been passed, that now it was receding; but apparently the cause of the falling off was merely the industrial conditions of the time, and now the tide is rising again, with no seeming tendency to reach the high water mark.

Meantime there has been an incessant effort, notably in the last dozen or fifteen years, to combat alcohol by means of legislation. Needless to say I refer to the prohibition movement. In 1880 Kansas passed a prohibition law; in 1884 Maine; in 1890 North Dakota; and five Southern states have come in in recent years, beginning with Oklahoma and Georgia in 1907. Local option has spread so widely that today we are told no fewer than forty million Americans are living in dry territory. Now if this territory were really dry, no one assuredly would take greater pleasure in contemplating that fact than I do or I would; but unfortunately we must recall that it is legal to ship alcoholies into this dry territory, even where they have state-wide prohibition. I have recently been making a personal investigation to endeavor to find out what really are the conditions in the prohibition territories. I will give you one or two illustrative instances. In the month of September of 1913—last September—there were officially shipped into Topeka, Kans., ninety thousand quarts of alcoholic beverages, or ten quarts per family. The little town of Tecumseh, near Topeka, a town of one hundred inhabitants, received fifteen hundred quarts in the month of September. Turn to the South. I made an investigation there recently, and, as an illustration, in Asheville, N. C., where there is not a saloon open and where I verily believe the prohibition law as regards the sale of

liquor is carried out absolutely, there were shipped in four thousand gallons of alcoholic beverages, exclusively distilled liquor, I think—four thousand gallons in ten days, into a worthy town of two thousand inhabitants. If we look a little more widely, we find the returns of a recent investigation of the Interstate Commerce Commission pointing out that no fewer than six million gallons of distilled liquor are shipped by the express companies from four or five Southern states, almost exclusively, of course, into prohibition territory. The city of Chattanooga, itself lying in the prohibition state of Tennessee, ships seven hundred and eighty-eight thousand gallons per year. Incidentally the entire shipment to Asheville came from Chattanooga. Other cities in the prohibition states shipped enormous quantities, and the estimate is made by the Interstate Commerce Commission that the total shipments of liquor by express companies amount to not less than twenty million gallons per year.

These are all very unpleasant facts. They seem to show that the legislation of recent years has discriminated in favor of distilled liquors against malted ones—not intentionally, of course, but in effect, because the distilled liquors are so easily transported, shipped by express.

That is not quite all. In the South there has grown up in the past few years since the prohibition laws were passed in Georgia, North Carolina and other states, an enormous traffic in other drugs, morphine to a certain extent, but notably cocaine. The poor white population and the ignorant negro population, sometimes not being able to write or not having the intelligence to write for liquor as the more intelligent people do, or perhaps not having the dollar or two to send, content themselves with buying a box of cocaine from the nearest newsboy. I meant to bring with me, but forgot to do so, a little box of cocaine taken from a negro prisoner in a Southern jail. It looks like an ordinary pill box. Those are sold for a quarter. Enormous quantities of it today are being sold throughout the South. The effects are seen in the most disastrous way because, unfortunately, bad as is the effect of liquor on the negro in particular, the effects of cocaine are far worse. Under the influence of cocaine, the negro becomes homicidal even though normally a mild person; he becomes homicidal and ugly in every way. The policemen of the South are finding a new problem presented to them by the cocaine negro. And there can be no question that, very largely, increase in the use of cocaine is due to the fact that it has become somewhat difficult for the negro to secure liquor.

A word about one other line of legislation in the South. South Carolina attempted to solve the problem, as you know perhaps, by

having a dispensary law. They got hold of one corner of a great truth. The great truth is that the real solution of the liquor problem must come through taking the control of the traffic out of individual hands, making it so that no individual and no corporation makes money out of the sale of liquor. That is the great truth which originated and was promulgated in Sweden. They got hold of a corner of it, but they did not apply it in a rational way.

They did take the traffic out of the hands of individuals and gave it over to the state, but unfortunately they applied the profits to the regular tax rate, and so instead of there being a few people who were interested and having profits from the liquor business, everybody was more or less interested.

I chanced to find the other day the official announcement of the commissioners of one county, Barnwell County, in South Carolina, which has a population of 35,000, asking for bids for liquor for the coming year and, without troubling you with figures, I may summarize them by saying that the quantity of liquor called for amounted to four gallons per capita of whiskey and its allies, and only two quarts per capita of beer. We see that by this law there is an enormous discrimination in favor of whiskey. That would be my criticism of all of the legislation of recent years. Unintentionally, but none the less effectively, it is discriminating in every way in favor of whiskey.

I shall make just one other reference to the investigation that I have made to test the effects of liquor, to judge it by its effects in the prohibition territory. After all we have no objection to alcohol as such. It has almost the formula of sugar. We have no objection to its particular combination of carbon, hydrogen and oxygen. What we object to is its effects—its effects on the brain, on the mind and morals of the people. And so I thought to make a test to see whether—since it is impossible to determine the exact amount of liquor that is shipped into prohibition territories—whether or not it is true that the effects of alcohol are as conspicuous in prohibition territories as elsewhere. So I made an investigation in Kansas and then in the South. It is not yet published but will very soon be in detail. Summarizing let me say that the records of police courts, the records of prisons, the records of almshouses, the records of asylums for the insane, all show conditions in the prohibition territory that average at least as bad as and very commonly worse than elsewhere. I fear there can be no question about that.

It remains, then, to inquire, What shall we do? Accepting the facts as I found them, I cannot make myself believe that the present line of legislation is effective, or is the best that we can do.

Others feel the same way, some of those in authority. Last summer Senator Works, of California, introduced a joint resolution in Congress providing for the total abolition of distilled liquor. He wishes to have a Constitutional amendment passed to that effect. [Applause.] I like to hear the applause, because I should applaud that move myself if I thought it had any prospect of success. But I fear it is illusory. I fear in the first place that there is no probability that it will become a law, and, in the second place, I fear that in the present state of things it would not be effective if it did. If we cannot enforce partial prohibition, I cannot see how we can hope to enforce the total prohibition of a substance that is so popular that one and a half gallons per capita of it are consumed each year in the United States. Yet this resolution marks a stage of progress in that it does discriminate, definitely and precisely, against distilled liquor. The other laws have had the unfortunate effect of discriminating in their favor. I also consider it as epochal in another regard, in that it recognizes the principle that we must advance by evolution, rather than by revolution; that we cannot take away from a people anything that is used in such enormous quantities.

All through history there is no example of a people changing its habits radically in a single generation. Always those changes must be slow, always by substitution. The best that I can hope, from my study of history and my knowledge of human psychology, is that we may substitute the milder drink for the stronger one, ultimately a still milder for that, and ultimately an altogether non-alcoholic one. That, it seems to me, is the principle we must attempt to apply.

Speaking practically then, just a few words as to what possible lines of action seem to me to lie just ahead. I would say, Tax "hard" liquor—a modification of Senator Work's idea to put a very high tax on distilled beverages, double the present tax at least. Then I would have the saloon, since we must have it, pay a much higher license on distilled beverages. That would discriminate against whiskey and increase its price. As a mere economic result its consumption would therefore tend to decrease. This would not keep the people who are the most injured by whiskey from taking it. That is a second principle that we must recognize. Alcoholism is always an effect. It is the cause of many things, but it has its effect because of the bad brain which the person who is injured by it has had the misfortune to inherit. The normal person will not become a drunkard even if liquor ran free from the fountains at the street corners, but the abnormal person, with a lust for alcohol, will get it if he must go through fire and possibly water for it. We have got to recognize that, and treat the dipsomaniac. Recognizing that, our present plan of sending

him to jail for a day or a week and then turning him out again to do the same thing over is foolish. It is grotesque, and we must get away from it by treating him rationally, by segregating him for a sufficient period.

One other point. We must recognize that the greatest dangers of alcohol are to the adolescent. We must make it as nearly impossible as it can be for the adolescent, for the youth, to secure alcohol. Let there be an absolute interdiction of the sale of alcohol, either to the drunkard or to the minor. Let the records of our police courts be given to the saloon-keeper, and let him be restrained from selling alcohol to a person who has been arrested for intoxication within a period of one year, let us say, or two years, and take away his license if he violates that. Take away his license at once if he ever sells to a minor.

Then—more important, as I see it, than anything else—let the entire proceeds, both the government revenue and of local license fees, be used for public utility, and not applied to the general tax rate. Let them be used for eleemosynary institutions, playgrounds, gymnasias, music halls and other counter attractions to the saloon. That, of course, is the second fundamental principle of the great Swedish Gothenburg System. We should therefore discriminate against whiskey, treat the dipsomaniac rationally, keep alcohol away from the youths and use all the money that may come from the traffic to fight the traffic.

Discussion.

The Sacrifice of Boys and Girls

DR. AMANDA D. HOLCOMB, Mount Pleasant, Mich.

I was intensely interested in the cure given last night by Doctor Williams for this liquor condition. The thing that interested me especially was that it is a cure that we can get. It is easy of attainment. If we want a bill to supersede the National Prohibition Bill, we can get the Bill that he suggested, to raise the license and to raise the revenue on liquor. We can get that. It will be easy. Money will be furnished by the breweries to put it through, and we will get it, and it will work, because they have our one hundred thousand boys who are being debauched every year by the liquor traffic, and this will be increased to one hundred and fifty thousand boys. And we shall have plenty of rescue work for women, then, because our fifty thousand girls that are being debauched to satisfy that hundred thousand boys will be increased to seventy-five to one hundred thousand girls that we will have to rescue.

*Discussion.***The Worst Dry Town versus the Best Wet Town**

DANIEL A. POLING, Battle Creek Sanitarium, Battle Creek, Michigan.

For the last fourteen years, or since my undergraduate work in Michigan, I have been intensely and in a very vital way interested in the question discussed last night by Doctor Williams. I have been here [at the Battle Creek Sanitarium] for the last three weeks with one who needed me very greatly. Because of that I have not participated in the Conference. Last evening I heard the paper of Doctor Williams and I appreciated it very much. I would say as an announcement, so that you will understand that I can speak with the authority of representation at least, that I am Citizenship Superintendent of the Christian Endeavor, and, as such, represent officially upward of four million young people; I am one of the National Vice-Presidents of the National Anti-Saloon League, National President of the Temperance Council of one hundred official national organizations; I am also educational superintendent of the Prohibition National Committee. I appreciate what Doctor Williams said, not because I agreed with him in every particular, because I did not, but because I appreciated the way in which he dealt with the subject, and believe he meant every word he said.

I am very sure we shall not solve this problem, from my viewpoint or from your point of view, until we deal with every phase of the question, until we are quite unbiased and willing to understand the thing the other man sees more clearly than perhaps we see it. I do not disagree with the statistics quoted by Doctor Williams. I do disagree, in some instances, with the statistical application of what he said. For instance, the introduction of 90,000 quarts of liquor into Topeka is not conclusive. The real question is how much liquor was shipped into Topeka before prohibition became effective there. Were there more than 90,000 quarts shipped in, within the same time, before prohibition became operative? We are bound not to forget also that Asheville, in the South, is a resort frequented by Northerners and that these men are men of great wealth.

There is another thing we are bound to recognize: I agree with the Doctor when he says prohibition does not prohibit. He did not make the statement in that way; he said it would not be effective under the circumstances. Prohibition does not prohibit because it cannot prohibit. It is an amendatory law, but I submit to you that prohibition can be made effective, that it is subject to enforcement just in proportion as prohibition is appreciated as an opportunity. Just in that proportion will it be effective in accomplishing that whereunto it is sought. I do not say it will wipe out drunkenness.

Some people will get liquor. Prohibition is said to be a failure. So far as some kinds of people are concerned, it is a failure. I am talking about the rising generation.

I say, out of first-hand experience in every great city of our North American Continent, that the worst dry town is unspeakably better than the best wet town, so far as the raising of children is concerned. I was in Maine in December. I went to Portland with the new sheriff of that county. I saw thousands of gallons of liquor confiscated.

I believe in prohibition because I believe it is a great moral question. I am convinced that the Government ought to assume a proper attitude on this question, that the Government ought to say as a foundation basis, a basis upon which we can work to eugenics, a foundation basis upon which we may work through every department, especially unto the uplifting of mankind—the Government ought to say in the beginning whether the liquor traffic as an institution, whether the liquor traffic as a great problem industrially, economically, politically and morally is right or wrong, and having so declared itself, then it comes to us as a greater opportunity to take care of the actual situation that confronts us at the present time. Prohibition does not prohibit, but it can be made effective. It is subject to enforcement.

When men say more liquor is sold in dry territories I am sure we are not troubled greatly. Why is it, then, that the liquor man does not spend a great deal of money and time in bringing to pass prohibition, so that it will be possible for him to sell more liquor?

I saw some agencies employed to make the introduction of liquor in Portland, Me., possible. I saw a tank that had been set in cement between the floors of a building. Eighty feet of pipe led down to the faucet. On turning the faucet one way with a given pressure you get whiskey: by turning it another way you get water—all of which goes to show that liquor is sold in greater quantities in dry territory than in wet territory, all of which goes to show that it is easier to get intoxicated under prohibition than under license.

But I ask you whether or not license has succeeded. We have had laws all over the United States against selling intoxicating liquors to minors. We have had laws all over the United States against selling intoxicating liquors to those who have become habitual drunkards. Have these laws been effective? No man here will say that these laws have been effective. But I charge you now, that inasmuch as at the end of a long period of years prohibition has been as supinely a failure as license, we shall find another way. The burden of proof rests on license today, not on prohibition.

And I would remind you that this is a national question. After all, we have never had a foot of real prohibition territory in the United States. This is a national disease. It is a national problem. Until we deal with a national problem in a national way, until for national disease we bring a national remedy, we shall not begin to solve finally the great question that confronts us at the present time.

I submit to you today that we are studying a many-sided proposition, and that to arrive at a wise conclusion we need not only the research work of those who are already committed to prohibition, but we need the research work of men like Doctor Williams and other men who are just as honest as I ever hope to be, and who are doing their very best to solve the greatest problem that has ever confronted this race or any other race.

Discussion.

Proportionate State Consumption of Alcohol

DR. E. G. LANCASTER, President Olivet College, Olivet, Michigan.

There is not one one-hundredth part of the liquor drunk in Maine and Kansas that there is in the "wet" states, like Massachusetts. I think I can prove that by the statistics Mr. Williams gave us in his strong paper. I appreciate the paper very much, because it is just in time to head off a lot of wild stampedings. He said that the express companies are handling twelve million gallons of liquor a year, and that the people drink about two or three gallons per capita. This means two or three hundred millions of gallons per year. It shows there is one hundred times as much liquor drunk in wet territory as there is in dry.

Discussion.

Caution in the Use of Statistics

EDWARD BUNNELL PHELPS, Editor *The American Underwriter*, New York, N. Y.

I want to say just a word in the way of general caution—on the strength of quite a number of years of work in statistics—that at best statistics are a hard lot. All of you know, of course, the old saying regarding the association of statistics, "lies and liars." I am every day more and more impressed, even in studying statistical publications and papers, with the ever-present perils and dangers and glorious uncertainties of statistics which have not been thoroughly masticated and thoroughly digested. In fact, I am rather inclined to believe that there is room for a movement in this country in the direction of fletcherized statistics.

There can be absolutely no question, when a man is starting to

build a house, of the importance of the house being well grounded and well founded, which importance obviously increases with the increasing height and area of the building. I can distinctly recall, in the early days, the building of skyscrapers on Manhattan Island where a number of intelligent people thought certain corporations were really throwing away a great deal of money going so far down into the ground to get their foundations on a bed-rock basis. But as people's eyes opened to the rapidly growing height and possibilities of the skyscrapers of New York and they began to get even an approximate idea of the tonnage, so to speak, of thousands and thousands of tons of steel, iron and stone, they realized that, after all, it had not been a fad, but a necessity, to get down to the bed-rock basis.

Now if we are going to do sane and rational and useful and lasting things in this Conference, for heaven's sake, let us start on a sane and sound basis, and do not let us get into the published transactions of this Conference, which certainly will circulate all over this country and possibly through Europe—do not let us get in, with the sanction of the printer's ink, alleged facts which are not facts, figures which may be honestly misstated but nevertheless are incorrect and entirely misleading.

Dr. Henry Smith Williams: Inasmuch as we are talking about alcohol, I want to ask Mr. Phelps frankly if he heard my statement last night and if he is referring to any figures that I may have used.

Mr. Phelps: Your paper, sir, was one of the most sane papers that I have heard in a good many years.

Doctor Williams: I thank you. I hope that my statistics were correct.

Discussion.

Expedients in Violation of Principle

DR. CHARLES G. PEASE, President Non-Smokers' Protective League of America, New York, N. Y.

I am opposed to the state having anything to do with the traffic of liquor. I do not think that we as a people can afford to profit through the downfall of the people of the race. We can get our income without taxing liquor. We want to seek principles and to act upon principles which, given time to work them out, will bring about the right condition. But to have makeshifts, or expedients, used in violation of a principle, it may seem to better the conditions slightly at first, but in the ultimate we are still presenting to the people the right to indulge in that which the state sanctions and receives a financial income from.

I should like to say, in regard to the craving for alcohol, that Charles B. Townes, recognized authority and one who is engaged in bringing men out of alcoholism and drug addiction, says that if we can get rid of tobacco, we will get rid of ninety per cent of alcoholism and ninety per cent of other drug addiction.

Discussion.

The Rising Tide of Alcohol Consumption

DR. HENRY SMITH WILLIAMS.

I shall not attempt in any way to answer anything that has been said. Most of it I agree with. I wish to point out just one thing, that a good deal of the discussion has not really been pertinent to the idea that I had, which was a way of getting rid of alcohol. A good deal of the discussion has been about alcohol.

I am constrained to say just a personal word. I assumed perhaps a little over-optimism, that everyone interested in temperance knew of my work on intemperance. Probably none of you knew of it. Five years ago I published in *McClure's Magazine* a series of articles on alcohol. That was regarded by Mr. McClure and others as perhaps the most popular series of articles on any scientific topic ever published in any American magazine. The proof of that was that there were nearly one hundred thousand requests to reproduce those articles wholly or in part. They came not only from temperance unions and societies all over the country, but from the presidents of railroads, the heads of manufacturing companies and all that. I set forth, as some people were kind enough to say, for the first time in a dispassionate way the essential facts and the effect of alcohol on the human body, telling it without prejudice and yet without gloves.

As I say, I assumed that my attitude in that regard was known to this assembly and thought it was understood by everybody that I regarded myself as one of the foremost champions of temperance in America and that I was only going to supplement this work with what I regarded as a practical effort to get some results. Mr. McClure happened to come out on the train with me yesterday and he said to me, "Doctor, how does it happen that after that exposition and after we have set forth the physiologic effects of alcohol so that everyone knows them, there has been no result," and I said, "Mr. McClure, that has been one of the bitterest disappointments of my life." I really did think in 1908 and 1909, when the tide of whiskey went down a little, that I had had a small measure in cutting out a few gallons of that. I said, "At last it has come; people are listening, they know now." These thousands of letters came from men of promi-

nence, saying, "After reading your articles I shall never again touch alcohol," etc. I have stacks of letters like that. The articles were published in book form by the Century Company and I hoped they were doing something to help in a little way to stem this tide. Then after 1909, the tide began to rise again and I saw that nothing had happened. When I have spoken on other occasions and have advocated the Gothenburg System, I have been bitterly assailed and criticized for that, so I have now attempted to find a compromise, something that seems to be practical.

Now just one other word that is personal. It makes some difference who is advocating a thing, so let me say that personally I have been a lifelong advocate of temperance. My mother brought me up to think that it was almost as bad to touch liquor as to steal, and I have that old Puritan strain. I do not need those things, so I do not take them. I don't take tea, coffee, tobacco or alcohol. At the same time I do not say to my fellow-man who does need them—I think he needs them or he wants them—"Because I don't need them, you shan't have them." I don't feel that is ethical. However, I do not wish to discuss this matter. I would say this, however. If any here are interested, or would like to see my little book on alcohol, which sets me right as to my attitude toward temperance, if they will leave their names with the Secretary, I shall be most happy to present a copy to any who may ask for it.

Discussion.

Licensing Light Drinks

PROFESSOR ROBERT SPRAGUE, Massachusetts Agricultural College, Amherst, Massachusetts.

For about twenty-five years I have lived in various prohibition states, many years in Maine. I have gone through practically every capital of the civilized world at midnight and noon, and all the time with the liquor question in view.

I should like to mention just a few things in connection with Maine. I am very well acquainted with Maine. Maine started her prohibition laws in 1851; it might have been in 1854. But it was in 1884 that she put it into her Constitution. Now up to two years ago I had been living for five years in Maine. I believe that there are no more polite people and no better stock on this continent than you will find today in Maine, and certainly no people ever made a stronger and more gallant fight for their liberties than the people of Maine have in the last 60 years on the liquor question—against criticism, against everything that might be brought up, against money. They have stood firm on that liquor question.

One of the heads of departments in Harvard two years ago came to me and wanted to take a little trip in Maine to find out something about how liquor was handled. He went into one city with which I was well acquainted. The first place we went to was a big building three stories high, a second-class hotel. There was a smoking room on the first floor and back of that there was a bar. We went in there and stood around a while, saw men come and go, drinking everything. In behind that we found another room. It was the room where the people who had gotten drunk were deposited. The men in that room were piled about four feet high on top of one another. We had to drink a little beer in order to stay, but while we stood there they were dragged in by the collar, by men who had the thing in charge, and thrown onto the pile. There they were spewing over one another. Some of them got more or less conscious. They would then struggle out and be taken care of in another room, where they were kept until they were able to go on to the street and take care of themselves. Around the city we went, in twenty-two places. There was no liquor sign in that town; there was no open saloon. Everything was closed. At that time there were four or five special state deputies in the city especially appointed by the government, with no other duty than to enforce the prohibitory law with all the power of the state behind them.

I have seen that for years in Maine. There are more divorces granted in Maine today because of drunkenness than in any other state in the union.

Mr. Poling: I challenge the figures. Will you give them to us?

Professor Sprague: All right, I will refer you to the last (1910) report of divorces of the United States, the last regular census. I cannot carry the figures in mind, but will be glad to look them up with you. I do not think that it is because of more drinking. I suspect it is due to this, that the folks in Maine are more sensitive to drunkenness, which is the cause of divorce; it indicates the keen sensitiveness of the Maine conscience on the matter of drinking. So do not take that in the wrong way. But there is a great deal of drinking in that state and in various other states.

Then I want to refer to this: In Maine today I rarely hear a real temperance lecture, a really out-and-out, hard-fisted temperance lecture that calls for self-control and moral suasion.

I want to agree with what Doctor Williams said last night. It seems to me that we have never in this country attempted what he has proposed, the elimination of the strong drink by some system whereby the people may get the weak, the light drink, with light alcoholic elements, light proportions in them, but get them freely

and get them guaranteed pure. We have not tried that. Certainly we are forcing upon many of our prohibition states, upon the drinkers, the most and worst undrinkable stuff that ever has been made by man anywhere on the planet, that I have ever seen. The people in Maine are drinking today, I believe, the worst stuff that has ever been poured into the human system. I can take you to places in prohibition states in the East where in the cellars of drug stores they have set up a can of sulphuric acid, a can of prune juice, a can of this and a can of that. These things are drawn off, and the liquor is made on the spot according to the demand—perfectly destructive. There is no question about that. I say, I agree with the effort to try an experiment, at least, along the line of Doctor Williams' proposition, that we should try to cut out the destructive stuff and give some license.

Just one more thought. I don't believe in the national prohibition proposition. I don't believe that if a man out on the Pacific Coast wants to take a glass of beer, I as a citizen of Massachusetts have a right to say that he shall not. I believe it is contrary to the very spirit of American liberty.

Discussion.

The "Booze Special"

MRS. J. L. HIGGINS, Temperance Worker, Battle Creek, Mich.

I want to give you just a little experience within ten miles of this town. You know Battle Creek was dry for two years, this city of thirty thousand inhabitants. They commenced first by going to Augusta. Then Augusta shut up its saloons. Then they went to Galesburg, and Galesburg shut up its saloons. Then they went on down to Kalamazoo, twenty-two miles away, to get their drink. They came back nights on the last car. It became so notorious that it was called the "booze special."

One night I was in the city of Kalamazoo and coming back I missed my first car and got on the late car. At the first corner a few men got on with their grips, a half dozen more at the next corner with their grips. I looked at them and said, "If those are traveling men, they are degenerating fast." At the next corner some more men got on with their grips, and I recognized the fact that I was on the "booze special." A man sitting across saw me, knew my business, knew what I was doing. He had read somewhere that every dog has his day, and he made up his mind that his day had come. He said to me, "Madam, do you see this?" I certainly did. He said, "Does that not reveal to you that prohibition is the greatest farce on the face of the earth? These men have been down to Kala-

mazoo. Their grips are full of liquor. They are taking the liquor back to Battle Creek." He continued, "More liquor is drunk under prohibition in Battle Creek than was ever drunk under a high licensed system. It is the biggest faree on the face of God's earth."

I am not in the habit of making temperance speeches on "booze specials," but, as the Quakers say, "the spirit moved me," and I said to him, "Let us count them," and we counted them. There were just fifteen men aboard. I said, "Here are just fifteen men. It is Saturday night. These would not be one drop in the bucket in one saloon in Battle Creek on Saturday night, and we had over thirty saloons. Where are the rest?" He said, "They are at home with their families tonight," and I said, "Thank God that the temptation is twenty-two miles away." I said, "These fellows are regular old soaks, anyway." Then those men began to gather around me, some of them. They had heard me speak before and they did not want to hear me speak again, and I said to them, "My friends, you heard what I said. You are regular old soaks. The money that should be spent for clothes and comfort and food for your families, you have spent for the liquor that you have in your grips." I said, "I would not be surprised if you are in debt to some honest dealer in Battle Creek for the very clothes you have on," and I continued, "That is not the worst of it. You are law breakers. If you had your just deserts, you would be behind the bars, and the worst of all is, you are not ashamed of it. We cannot do much for you. God pity you. You poor fellows, we cannot do much for you. All we can do for you is to leave you in the hands of the just and merciful God." I said, "We are not working for you especially. We are working to turn out a race of citizens, among whom such men as you will be practically unknown." And then one of them sat down on a seat, folded his hands a little meekly and said, "But madam, think of the taxes." I looked at him a moment and I said, "My friend, I don't know you, but I know your kind—ragged, blear-eyed, run down at the heel." You have seen them many a time. And I said, "I know your kind and I venture to say that you don't pay taxes, one dollar." He looked at me a moment and his friend sitting beside him grinned a little and said, "You are just right, madam, he don't." I said, "You are a pitiable subject to worry about taxes."

My friends, one thing faces us. That is what God's will is toward men, and God has but one method of dealing with sin—extermination.

*Discussion.***The Saloon and the Taxpayer**

GEORGE B. PEAK, President Central Life Assurance Society of the United States, Des Moines, Iowa.

When we observe the increased amount of alcohol that is being used now, as compared to formerly, what would have been the amount if it had not been for the fight against alcohol? I suppose the use of alcohol would have been quite general and we would all be showing some of the effects of it. As the consumption has been increased some five times what it was in 1840, perhaps it would have been ten times or twenty times the amount. I believe, for one, that the fight against alcoholism has been a gaining one. We have been gaining on ourselves—perhaps not conquering the great evil, but teaching the world the great injury from alcohol and preparing ourselves for a more effective fight in the future.

A few years ago the leading newspaper in our city announced the fact that no liquor advertisements would appear in the paper in the future. That paper was soon followed by the other papers and now, in Des Moines, a city of over one hundred thousand, it is impossible to insert a liquor advertisement in any of the papers.

I am somewhat acquainted with Kansas, somewhat acquainted with Oklahoma, somewhat acquainted with the prohibition territory in Texas, somewhat acquainted with states that have no prohibition territory, and I feel very certain that the condition is far better in states that have made the earnest, vigorous fight against alcohol than where the fight has not been waged—far better. I am acquainted with the condition in our own state, Iowa; also the condition in Des Moines. You remember that in Iowa they had a state prohibitory law. The legislature amended it, and now the cities—by getting up a petition signed in the larger cities by the majority, which is one over the half of the voters—can introduce saloons. We had a very severe fight on the last petition, that went through all the courts to the supreme court. It was decided that the petition was not valid, and the saloons were closed last November and remained closed for about a month. During that month there were just about one-half of the arrests for crime in Des Moines as during the previous month. Compared with the year before, at the same time, there was about one-half of the criminal practice going on in the city, and less than one-half of the drunkenness—there was some drunkenness during this time, because there was a little town about four miles from Des Moines that had two open saloons, one bar-keeper in each saloon. These saloons increased their bar-keepers, one to twenty-five, and the other to twenty-two men, serving out the drink to

some of the Des Moines people, who, you see, went out to these places to get drinks. Notwithstanding that, the drunkenness in the city and the arrests for drunkenness were reduced to about fifty per cent of what they were the month previously.

Now I believe that the only successful fight against alcoholism is to stop the open places that educate the young man to drink. When they circulated this last petition, they raised the question of finance. These saloons paid into the city a tax of something over one hundred thousand dollars. Now the saloon-keeper raised the question of the state's need of this hundred thousand dollars. They finally succeeded in getting quite a number of men to sign the petition who would not have signed it otherwise, but that petition is now in the courts again, and it will be tried out through the lower courts and the supreme court.

I noticed the other day, in a Des Moines paper, that about twelve of the leading business men of Des Moines—men who pay the largest taxes with the exception of one taxpayer there, who rents his buildings very largely for saloon purposes (these other men are not interested in renting places for saloon purposes)—that these business men found an affidavit and presented it to the courts. They demanded that the saloon be closed on the ground that it increased their taxes because it increased the expenses of looking after policing the city; because it increased the expenses of the courts; because it filled the poorhouses, and added to the expense of the inebriate asylum, and all of those things; because the saloon, instead of being a revenue producer, was an expense maker. Whenever you can get the people to see the saloon from that point of view, that it is an expense maker instead of a revenue producer, you make a gain.

Discussion.

A "High-Class" Saloon

MRS. MAUD GLASSNER, Michigan Federation of Women's Clubs, Nashville, Michigan.

I want to indorse what has just been said about the saloon and to add a little personal experience, if I may be pardoned for doing so. When we were married, my husband had a small store and we lived above it. We got along very happily for three years, when the building next door was converted into a saloon. Now I am convinced that the great majority of men and women in gatherings of this sort, who do not frequent saloons, know very little of really what goes on in an open saloon. So I want to tell you some of the things that happened when the saloon was set down eighteen feet from the side of our building. In the first place the saloon-keeper

who was to run the business, came into our store and ordered some supplies and very pompously informed us that he was an exceptional man—he was a teetotaler, in fact. He did not use the vile stuff; he was an exceptionally good saloon-keeper; and that in the last town where they were his wife was such an excellent woman they had asked her to teach a class in a Sunday-school; that he was going to run a high-class place; that we had never known what a high-class saloon was, but we were going to learn. He almost persuaded me that there might be such a thing as a beneficent influence coming out of the saloon in a town of our size. So while they carried the plate glass mirrors into the saloon and the mahogany furniture into the front of this building, in back they were building a high board fence, enclosing a part of the back yard. Our customers were very much amused when I said I didn't know why they built an addition onto the back of the building when they did not know how much business they were going to do. I was very much amused when I found that every saloon had to have some place where the men might wallow as hogs in their own filth. That is what that was. Those men would get out there and engage in rough singing and talking and fighting. There never was such a storm of vile language and profanity coming from any place as there was from that part of that saloon. The saloon-keeper used to stand in the door of the saloon to coax the boys into the place, while men were discussing the means by which they had turned themselves from men into carrions. The worst part of it to me was that I had been accustomed to doing my sewing in the sunny side of the doorway of the store. I could not sew, I could not rock my baby to sleep in that upstairs window, or hang my washing in the back yard, without hearing language that would scar the soul of any woman. And I said to myself, "If that is the sort of language and the sort of talk that goes on in an open saloon, the fewer we have of them, the better for our population."

It seems to me that is a self-evident fact. The most terrible part of the whole thing to me was the fact that these terrible social diseases which we are trying so hard to combat now-a-days were laughed at and joked about. Sure cures were swapped and patent remedies recommended, just as if decent people were miles and miles away. And I faced bad men under the influence of liquor over the counters of our store until I really wished I had the grit of Carrie Nation and a stick of dynamite. It seemed to me as if it would be of service to humanity to wipe that thing off the globe. I know of young boys who got into the atmosphere, who heard that talk, who went out and formed clubs to carry on that vicious brutality.

*Discussion.***A League of Publishers**

MELVIL DEWEY, President Lake Placid Club, Lake Placid, New York.

I think it is true that while the people are equally sincere and earnest in regard to this, there are diametrically opposite opinions as to what should be done. The pathology we all know. It is the therapeuties we should get at. Has not someone here a suggestion upon which we could all agree? The paper of Doctor Williams does not stand at all as the expression of the opinion of the Conference. The Conference itself simply publishes what has been said. The remarks of Doctor Williams are his, and the remarks of some other person are his, and people must choose what they think to be the right. In regard to the remark about statistics, I would suggest that the truth may be absolute truth and yet very misleading. You know if you take a fish pole and look at it end ways, it is the size of a ten-cent piece. Look at it otherwise, and it is the length of an elephant. So one man looks at the thing from a certain point of view, another man from another point of view equally honest. What we see is true, but we must learn to walk all around it and see it in all its bearing if we are going to command the confidence of the public.

I don't believe it would be of any use if we spent another week here, discussing prohibition and other regulations, for men equally able, equally honest, equally experienced are diametrically opposed on these questions. But there are things on which we could agree. For instance, a suggestion was made last night that I wish someone would take up here and give some sidelight on. That is, what the publisher said who stated he was very ready to join in a league of publishers who would refuse to break into their columns the advertising of alcohol, tobacco, and patent medicines, a get-rich-quick scheme, or any other thing distinctly inimical to race betterment. There are hundreds of publications in this country. This Conference might unify them, form a league of that kind. All sides will agree on that. Whatever you may say on drink and liquor, we all agree that it is a bad thing for the race to have it advertised and thrown before them in all sorts of ways. The employers of the Employers' League will pledge themselves not to employ users of alcohol and tobacco, if you go as far as that. We could get a thousand employers in a very short time who would refuse to take into their employ any man or boy, or woman either, addicted to this vice that is making a race of runts.

*Discussion.***Soothing Syrups and Alcohol Craving**

DR. EDITH B. LOWRY, St. Charles, Illinois.

I have been very much interested in one of the causes of drink. I notice in Chicago that among the downtown offices many men would work in the office under stress for two or three hours, then they would feel the craving for something, rush out, and get a drink. I decided there must be a cause for that. In my own work, I found that sometimes when I had been working for two or three hours I began to have a restless feeling, a craving for something, and I felt that it was the same that these men had and which a great many would interpret to mean a need of alcohol and others would a need of coffee. I found out that if I kept some molasses candy on my desk and ate two or three pieces at that time, that satisfied the craving. I found that it is a craving of the system for something which can be satisfied only by the right diet.

Another thing, I found that a great many of those men in the offices, who rush out for drinks, were eating regularly at the restaurants. They did not have well-balanced meals: they did not have the right things in their system, the right food that the system craves. It seems to me one of the best solutions of this alcohol question is being offered now in the schools by their domestic science and domestic economy classes, which are teaching the girls how to have well-balanced meals in the home. Then the men are not going to have quite the same craving for alcohol.

Another cause for this alcoholism is the training from babyhood. It is quite customary among a good many families to give the babies soothing syrups and a little whiskey and water, when they have colic, or various other stimulants. The system naturally becomes accustomed to the stimulation and naturally craves it. As a child grows older, this craving is satisfied by some soft drinks at the soda fountains and various other places. Then, as the child advances to an older age, it outgrows this habit of soft drinks and takes to harder drinks. So the training of mothers to manage their homes rightly, to bring up the babies rightly, feed them rightly, and also feed the families rightly is going to do a great deal in solving the alcohol question.

*Discussion.***Prohibition and the Drug Consumption**

DR. JAMES T. SEARCY, Tuscaloosa, Alabama.

There is no question that the scientific aspect of the alcohol question is what the whole question rests upon. When a man takes a

drink of alcohol or when he smokes his pipe of tobacco or drinks his cup of coffee or takes his toff of cocaine, he does it with the knowledge that it is a scientific question. There is no doubt about it. He feels better for having taken any one of these agents. Now, there is a great deal of information coming up from all directions as to what occasions the better feeling that that man has when he takes any one of these drugs. Most anybody feels more or less discomfort, a great deal at times, more than others. If he can take any agent that will prevent his recognizing the discomfort, he has done something. Whatever the effect is, he recognizes it as a fact that he does feel better. But the chemical action of those very drugs, when removed, is to leave him more delicate and more sensitive. That man feels worse than he did before he took that agent. If he repeats this continually, he continues to feel bad and continues to increase his hyperesthesia, so he wants more of the drug and he takes more to satisfy him.

Now we have gone all over this world of civilized people and collected from everywhere agents of this kind and are using them. We are using the caffeine from tea and coffee that we get in Asia, using the caffeine from the cola nuts that we find in Africa and now are producing in South America. We find in the Andes Mountains that the Indians chew cola leaves. We find the Indians in this country using tobacco. Now it takes whole states to furnish enough for the country. We found that the Moors of Spain distil the milder fermented drinks, getting stronger alcohols. Now we cannot get enough agents strong enough for us. The users of milder ones, like caffeine, take directly to nicotine, then they get to alcohol. The caffeine fiends are coming from all directions, and the morphine users, and sometimes the chloral, sometimes the coal-tar products. We are relieving our headaches everywhere through civilized society with the broadcast use of these things. That is having some effect. It is having a broadcast effect in this country of producing in every direction psychroesthenic hyperesthesia of the nervous system, from which people feel bad. As I said last night, they are born tired. They know they can get these things. They are advertised as stimulating, invigorating, refreshing, exciting; these chemists having pushed out that kind of scientific information for the use of these drugs. Then they come to me for some information as to the cause of increasing insanity. Long before you get insanity, the indications of nervousness come.

I can tell the effect of the prohibition principle by its effect in my own institution. Birmingham, some two or three years ago, had

prohibition. We did not get the alcohol inebriates from Birmingham—not nearly so many as we did before or as we have since they have taken away the prohibition of alcohol—but we did get drug fiends in greater number. They changed from one to the other. All through that Southern country we have prohibited the use of alcohol in negro districts, so poor negroes are taking cocaine and it makes worse fiends of them than the other.

Doctor Williams: They are a good deal worse, aren't they, Doctor?

Doctor Searey: We cannot say that. I had brought into my office the other day a druggist who came into the hospital as an inebriate from the use of caffeine. We are manufacturing that kind of people by the cigar, by alcohol and we, a civilized people, have done it all over the world.

Discussion.

International Committee on Liquor

FREDERICK L. HOFFMAN, Statistician Prudential Insurance Company, Newark, N. J.

About a year ago, on the initiative of the Russian Government and of the French Government, in cooperation with other European governments, an International Committee was formed for the scientific study of the liquor question entirely *de novo*, without any preconceived notion whatsoever. The United States has formed a Sub-Committee of that International Committee. Of the Sub-Committee, Mr. Taft is chairman. It includes on the Executive Committee a number of those who were on the original Committee of Fifty which studied the liquor problem. While they have not as yet seen their way clear to organize for active work, they have divided into five or six specific committees, each of which will deal with a separate and well-defined branch of the whole question of the relation of alcohol to the public in all its phases.

Discussion.

Alcohol Posters

MRS. CHARLES KIMBALL AND ELIZABETH HEWES TILTON, Boston, Mass.

MRS. KIMBALL: Just now we are carrying on aggressive work against alcohol in Boston. It is being done through posters in an educational way. A little over a year ago, the first poster came out, put on

JOHN MITCHELL

LABOR LEADER,

said (Toronto, 1909), that he was not at all impressed with the statement that if you close down the Liquor business, you bring a calamity to the community. If a brewery or distillery were closed down, on its ruins would GO UP A FACTORY.



Think-It-Over, Poster Committee, 11 Masoo St., Cambridge.

Who is the first man
to be laid off, and the
last man to be taken
on?

The Man Who Drinks.

11 Masoo St., Cambridge, Mass.

Libbie Printing Co. Boston

**OVER 95 PER
CENT
MORE ACCIDENTS
TO WORKMEN WHO DRINK
THAN TO WORKMEN IN GENERAL**

According to figures of
Leipzig Sick Benefit Society



THINK-IT-OVER POSTER COMMITTEE
11 Masoo St., Cambridge, Mass.

a small building on Charles Street. It justified its excuse for being that day, for in a short time groups of people came up and stood long enough to read, "One dollar in, two dollars out, for every dollar the street receives for license. Two dollars go out to take care of criminals, paupers and insane brought to our institutions through drink. Think it over." On the same afternoon the newspaper men came there and, following them, the photographers. In a little while it became newspaper news. We had word from all over the country inquiring about the poster campaign. This offers perhaps a continuous movement that nothing else offers. The sound of the human voice passes. We listen to an eloquent address; we enjoy it and we think of it. It comes up at times. The poster remains with its educational value. When the voter goes to vote for license or no license, he sees the poster. It brings to his mind the thing he should vote for.

In our university city, Cambridge, we had a poster day. Mary Barry had the posters placed on all public buildings. Citizens loaned their fences, bankers gave their windows, and we had a royal day. We have had many such days in the state of Massachusetts. Doctor Southern, of the Psychopathic Hospital, looks over every one of our posters, in connection with Dr. Putnam, the famous neurologist of Harvard. These posters are given careful study. Everyone can rely on the poster as being statistically correct.

I submit a statement by Elizabeth Hewes Tilton, Chairman of the Poster Committee, Cambridge, Mass.

ALCOHOL EDUCATION THROUGH POSTERS FOR THINKERS—NOT DRINKERS

Alcohol Education through Posters is a movement of Boston doctors and social workers, affiliated with the Boston Associated Charities. For thinkers, not drinkers, it aims at no specific legislation, but works to change men's attitude toward alcohol. It is not Prohibition; it is not No-License. It stands for the only thing that can make Prohibition *prohibit*. No License means *NO EDUCATION*.

In short, it is no use legislating against what men want. You must educate your average man *not* to want, and then legislate for the laggard. It seems a long road, but what scientists, physicians, sociologists think today, the man on the street thinks tomorrow. The selected minds of the race have turned against alcohol. To take these facts, and without sentimentality or exaggeration pass them on to the average man, is the object of this health and efficiency campaign against liquor.

Posters were chosen because alcohol is such a time-worn, crank-

\$1.00 IN! \$2.00 OUT!

**FOR EVERY \$1.00
THAT THE STATE RECEIVED**

**LAST YEAR FOR
LIQUOR LICENSES
IT PAID OUT
OVER \$2.00**

**For the CRIMINALS, PAUPERS
and INSANE brought to our In-
stitutions through DRINK**

**WHEN YOU HEAR ABOUT REVENUE FROM LIQUOR
THINK THIS OVER!**

Worked Out from Auditor's Report, 1912, and
26th Annual Report, Mass. Bureau of Labor.

POSTER COMMITTEE
11 Mason Street, Cambridge, Mass.

BUCK PRINTING COMPANY, BOSTON

worn subject that you are forced to apply a very fresh handle to make the subject *new* and *news*, to carry it into that final education, the press. With this fresh approach, *Collier's*, *Munsey's*, *The Survey* and *The Outlook* have all come forward and offered to help. Had it been simply Alcohol, it is doubtful if they could have got a hearing for the campaign.

Now I want to call attention to a curious fact—the utter silence of all our social service work on the alcohol question. In the New Year's *Survey*, it summarizes all the work being done—better housing, trade unionism, sex hygiene, but not one word about alcohol. I do not know but my impression is that there are few courses devoted to alcohol in our schools for social science, so that it has come about that the average social worker does not think the question important.

The real leaders never doubt its importance, but they tell you that it is so intricate, and men get so passionate about it, that they have been at a loss how to move on it. They say it is not a cause, but a war. *But move on it we must*, for it plays too great a part in all the things that social workers are fighting for them to ignore it longer. We are fighting against these things that destroy the health and efficiency of our nation—poverty, insanity, crime, immorality, disease. In every one of these alcohol plays an appreciable part.

The Boston Associated Charities found that one-fourth of the poverty that comes on charity in Boston, Mass., is directly and indirectly due to drink. Curiously enough, the Committee of Fifty, working through several states, also declared one-fourth of our poverty due to drink.

Only one-fourth you may say, but if you are fighting poverty and have found something that is making one-fourth of it, don't despise that one-fourth. Move on *it*.

Doctors agree that alcohol is the immediate cause of from one-fifth to one-third of our insanity. Insanity causes a very great expense to a state. If you find something that is making from one-fifth to one-third of that expense, good judgment, good business, would be to move on it.

Here I may insert, by the way, the arrests for drunkenness having increased in Massachusetts one hundred and sixty per cent in eleven years, we have a Commission to look into the matter. Doctor Southard invited this Commission to the Psychopathic Hospital and showed them one patient after another *clear out of their minds* from alcohol. I was present and no more depressing sight have I ever seen. At the end Doctor Southard said, "Gentlemen, individual liberty is a doctrine very much in vogue. From it I will not dissent.

TO THE THINKING MAN!

**OUR PRISON COMMISSION REPORTS
(1912)**

96%

**OF THOSE IMPRISONED
HAD
INTEMPERATE HABITS!**

REPORT OF PRISON
COMMISSION, MASS., 1912.

ALCOHOL EDUCATION,
11 MASON ST., CAMBRIDGE, MASS.

Buck Printing Company, Boston

But I wish to say that a state that licenses shops that sell insanity should pay out its millions liberally to support the victims of its hobby."

Excluding drunkenness as a *crime*, the Massachusetts Bureau of Labor found that fifty to fifty-three per cent of our crime was due to drink. The Committee of Fifty found forty-nine to ninety-five per cent due, directly or indirectly, to drink.

I believe in prison reform, but some of the energy ought to go, not toward the reform inside the prison, but in reforming the *causes* outside that send men there. Statistics are loose things, but everything shows an extremely strong connection between drink and crime, and if you can reduce our prison expense by one-half or even one-third by removing alcohol, I think it is worth while to bring this fact out, to make it prominent in all this splendid prison reform movement. In fact, I think it is the opposite of "efficiency management" not to bring it out.

We had a letter on this subject, which I now submit by permission.

LETTER RECEIVED FROM A FORMER POLICE COMMISSIONER IN
SAN FRANCISCO

SAN FRANCISCO. May 15. 1913.

"I notice in the Lexington *Minute Man*, that I receive from my native town weekly, a paragraph to the effect that a poster is to be displayed in Bedford saying that 'directly, indirectly, one-half of our crimes are due to drink.' It may interest your committee to learn of my experience in that line.

"While Police Commissioner in San Francisco in 1907-08-09, it was my custom to examine the records in the city prison frequently, showing all the crimes and other particulars attending arrests, that numbered about two hundred daily, and my conclusion was that fully ninety per cent were due, directly or indirectly, to the use of liquors. Again, all saloons in San Francisco were closed for thirty days following the great fire in April, 1906, the result being that there was so little police duty necessary, in spite of the great confusion growing out of the fire, that one-half the police force were given vacations for periods of from ten to thirty days. When the saloons were again opened, the officers on vacation were recalled, as it was deemed necessary to place the entire force on duty because of the increased crime and disorder.

"Yours truly,

"A. D. Cutler.

"510 Kohl Bldg., San Francisco."

The connection between alcohol and immorality is too well known to dilate on. Miss Jane Addams says that those who have

ARCHBISHOP IRELAND SAYS.—

"The Great Cause of Social Crime is **DRINK**; the Great Cause of Poverty is **DRINK**. When I hear of a family broken up, I ask the cause, — **DRINK**. If I go to the gallows and ask its victim the cause, the answer, — **DRINK**.

Then I ask myself in perfect wonderment, **Why do not men put a STOP to this thing?"**

ALCOHOL!

YOU MAY THINK:---

It is only Heavy Drinking that harms.

EXPERIMENTS SHOW:---

That even Moderate Drinking Injures Health, Lessens Efficiency.

YOU MAY THINK:---

Alcohol braces us for hard work and lessens fatigue.

EXPERIMENTS SHOW:---

That ALCOHOL IN NO WAY INCREASES MUSCULAR STRENGTH OR ENDURANCE.

ALCOHOL LOWERS VITALITY; ALCOHOL OPENS THE DOOR TO DISEASE.

At the Massachusetts General Hospital, Boston, the use of Alcohol as a medicine declined 77 per cent. in eight years.

Most Modern Hospitals show the same tendency.

ALCOHOL IS THE IMMEDIATE CAUSE OF

MUCH OF OUR INSANITY.

MUCH OF OUR POVERTY.

MUCH OF OUR CRIME.

THE MASSACHUSETTS PRISON COMMISSION REPORTED THAT 96% OF THOSE IN PRISON IN 1912 HAD INTEMPERATE HABITS.

LASTLY, ALCOHOL PROMOTES COMMERCIALIZED VICE.

YET YOU MAY SAY:---We need the Revenue from Liquor.

DO YOU REALIZE---HOW SMALL IS THE REVENUE compared with the Costs of Carrying the Victims.

YOUR MONEY SUPPORTS THESE VICTIMS,

FOR HIGHER TAXES MEAN HIGHER RENTS.

IN SHORT

ARRAYED AGAINST ALCOHOL are ECONOMY, SCIENCE, EFFICIENCY, HEALTH, MORALITY.

CITIZENS, THINK!

Issued by a Committee of Physicians,
appointed by the
BOSTON ASSOCIATED CHARITIES.

POST ON PRIVATE TREES ALONG MAIN STREETS.

ALCOHOL EDUCATION.
11 Mason St., Cambridge, Mass.
For Dealers: Not Dealers: Each, \$1.50 for
1000 Paper, \$2.00

THE LEBLANC PRINTING CO.



111 WATER STREET BOSTON

studied the subject know that it is the indispensable vehicle of white slavery.

A great American, known to all of you, said, in a private letter, that his recent trip around the world made him feel that alcohol, in conjunction with venereal disease, might carry off the white race, unless great educational and restrictive measures were instantly applied.

All these facts should sink deep into the minds of social workers and come out in *action*; for they are their own particular subjects—poverty, crime, disease, immorality. To fight them efficiently, one must fight alcohol, fight it with education.

The youth of the nation will be appealed to by the fact that alcohol is probably the greatest health and efficiency “sapper” that we have.

Experiments prove that even moderate drinking injures health and lessens efficiency. This has made the Kaiser a total abstainer and caused him to beg his army to give up beer.

Another fact that cannot fail to impress the race is that alcohol is dying out as a medicine because, far from giving life, it destroys life by lowering vitality. It really opens the door to disease. Hence at the Massachusetts General Hospital, Boston, the use of alcohol as a medicine declined seventy-seven per cent in eight years.

In short, the passing of alcohol would restore untold amounts of health and efficiency now being lost, not through *heavy drinking*, but through *moderate drinking*.

These things should not be done all at once—but education boards should be run through long periods.

For information regarding Posters, please write to—

ELIZABETH HEWES TILTON,
Chairman Poster Committee,
Cambridge, Mass.

TOBACCO A RACE POISON

DANIEL LICHTY, M.D., Senior Consultant, Rockford City Hospital; President, Trustees Rockford Municipal Tuberculosis Sanitarium.

Man, generic man, is the greatest asset of the age, and of the world. It is the duty of those who dwell on the heights to conserve this asset.

It should not be necessary to put the subject of tobacco on the defensive, yet, in its almost universal use, to openly declare it a *race poison* demands this; it requires the courage and sacrifice of a martyr to do it.

LIQUOR BILL

\$1,750,000,000

IN THE UNITED STATES FOR ONE YEAR!

THIS WOULD —

- | | |
|---|----------------------|
| 1. Build Ten Hospitals in each of the 48 States in the Union at a cost of \$100,000 each and endowed with \$500,000 each..... | \$288,000,000 |
| 2. Build 4 Colleges in each State each costing \$1,000,000, and endowed with \$1,000,000 | 384,000,000 |
| 3. Build a Road from New York to San Francisco at a cost of \$10,000,000, and give each State \$1,000,000 to build tributary roads..... | 58,000,000 |
| 4. Equip 10,000 Playgrounds for Children at a cost of \$2,000 each..... | 20,000,000 |
| 5. Give each State \$10,000,000 for Industrial Education in the public schools... | 480,000,000 |
| 6. Place 50 Libraries in each State, each costing \$100,000 and endowed with \$100,000 | 480,000,000 |

And Leave \$40,000,000

— FOR —

MUNICIPAL RECREATION CENTRES

IN PLACE OF THE SALOON

By W. E. PITTENCER
South End Alcohol Education Committee

11 Mason St., Cambridge, Mass.

Duck Printing Company, Boston

However, as Abraham Lincoln said of his opposition to human slavery, "If the end brings me out wrong, ten angels swearing I was right would make no difference."

Tobacco is a poison, a narcotic poison, an acro-narcotic; it is so classed in every text-book on poisons, in every book on botany. Every chemistry so classes its alkaloids, and every dictionary, medical or otherwise, so defines it. Every part of the plant is poisonous. Even the sweet secretion of its flowers is stupefying. Only a few poisonous plants excel it in deadliness. In Germany tobacco is fittingly called *teufel kraut*, "devil's weed."

Tobacco alone possesses the fascinating flavor and aroma that lures the world. Eighty per cent of the adolescent and adult male population are enamored of its narcotic and lethal potency. How some are poisoned and others are immune is the paradox of human physiology and pathology. Here heredity and education, maternal and filial affection, are all deposed and dumped into a common mire of tobacco debauchery.

That it possesses a potency to disturb function in callow youth or adult decrepity, most beginners will readily attest. King James' counterblast against tobacco is such a worthy and graphic clinical recital of its systemic effect as a modern therapeutic professor might be proud to have composed. "A custom loathsome to the eye, hateful to nose, harmful to the brain, dangerous to the lungs, and in the black stinking fumes thereof nearest resembling the horrible Stygian smoke of the pit that is bottomless," is his characterization of burning tobacco.

That it has lethal properties, stupefies and kills, neither scientist nor layman can successfully refute. The recital of its exclusive discovery and use in the Western Hemisphere has many characteristics of the recital of the ardent adventurer, or the buccaneer sailor. Pipes, implements, not unlike modern smoking pipes, have been discovered in Italy, Greece, Asia, Turkey, China, Ireland and the East Indies. Archeologists acknowledge these finds and admit that they may have been used for the combustion and inhaling of some narcotic substance.

Anesthesia and narcosis, from whatever substance, are regarded as pathological conditions; they produce perversions of function and increase morbidity. That a universally acknowledged narcotic and poisonous substance has found such lurement to man, the boasted monarch of earth, is an enigma of modern ethics and ethnology. There are other pernicious, habit-forming drugs as well as tobacco being insidiously foisted on susceptible humanity by unrelenting commercial advertising that have their toxin and their

menace. National and individual perspicacity seems already myopic, if not blinded, by the blandishments of their advertising. France was slow in recognizing the demoralization absinthe was working on her people until its wrecks tainted her society and blotted her landscape.

China passed from dynasty to dynasty under the stupor of opium—an Empire in area, mines of wealth at her feet, but with a paucity of appreciation of these gifts or of the degradation opium was working among her people, until the sober remnant of virile civilization compelled her to abandon the cultivation of the seductive poppy. Century upon century passed over opium-tinctured China, but her race was stupefied and retrograde among nations. Spain, once “the Mistress of the seas,” has become a mendicant at the feet of nations since she introduced tobacco to her impetuous people, and is begging for her autonomy with the tobacco-shriveled ghost of her former proud self mocking her pleadings.

In 1896 the National Board of Health of Mexico issued a pamphlet on *tobacco using*, calling on all good people, *especially doctors*, saying, “We can continue our devotion to tobacco, knowing, as we do, its calamitous results, but let us warn the innocent who sin from ignorance,” etc.

Man the world over has sought and possessed a sense obtunder. Tobacco, alcohol, opium, cocaine, are all narcotics which make all races adverse to ethnic as well as ethical progress. No substance has become so universal as tobacco. Through his stupor he severs connection with the real source of joy and power—fresh air, pure water, right food, and wins false force through intoxication and narcosis.

The recognized degenerate opium user of Eastern Asia, the betel chewer of the Andes and the Himalayas, the hashish eater of Arabia, and the absinthe wrecks of France, are graphically the antecedent degenerates of the Occidental tobacco inebriates, who must follow their trail to final race extinction. Narcotic indulgence, whether in Asia or America, means race degeneracy, ethnic inferiority and extinction, *race poisoning*.

The efficiency engineer, the corporation superintendent, the transportation chiefs, all captains of industry, are calling for greater efficiency in their several departments—but the smoker blazes away, and the snuff and tobacco chewers roll their quids in stupid indifference to the requirements of comity and efficiency. Employers refuse the cigarette kid, while compulsion secures the veteran pipe fiend employment. David Starr Jordan says there is no use in considering the future of the cigarette boy, as he will have no future.

The doctor, the research student, the biological engineer seem timid, lax or indifferent to the ethnic blight of tobacco.

Occasionally articles appear in scientific medical or other highly ethical and literary magazines deploring the spreading use, economic waste, and bane of tobacco and its racial wreckage. In other more popular magazines, whose circulation is measured by millions (and their readers by tens of millions), with front and back full-page covers in four colors we find display lines of illustrated advertisement extolling the merits of their respective tobacco manufactures, each with positive declaration and loud boasting that their product has neither "bite" nor "sting," nor poisonous nicotine. A score of pipes are patented every year claiming to prevent the acrid smoke and toxic oil and deadly nicotine from reaching the consumer. The anxious, hurried reader does not recognize between the lines the admissions of the cunning advertiser of both pipe maker and tobacco mixer that there is poison in his product, in the substance and in the advertisement. A chewing gum is now advertised to relieve the dryness of the mouth after smoking. No trust is so conscienceless in its advertising as the tobacco trust. A hundred or two human lives may be burned to death or horrible disfigurement in shirtwaist factories; another several hundred destroyed in burning hotels; ships may be set on fire, mines burned, hospitals, homes, morgues and graves be filled, while widows wail and children's cries fill the saddened air, but the news press must not tell that these grewsome and grief-laden tragedies were all caused by stupefied cigar, cigarette, and pipe smokers, indifferent and carelessly criminal with their matches and embers and stubs.

The nicotine from tobacco combustion and chewing enters the system through the usual channels of respiration, gestation and absorption. In chewing, the extracted toxin takes the course of foods, through the stomach and absorbent glands, and probably has some of its virulence burned out or diluted in passing through the liver before it enters the right heart and is admitted into the general circuit. In smoking, the poisonous oil and nicotine are volatilized, and with the *carbon monoxide*—the product of combustion which has both an affinity and an avidity for the blood—a *triune* toxin enters the pulmonary circuit, saturates the alveoli of the lungs, and hits the base of the right heart and the partition between auricle and ventricle—where are located the wondrous bundles of nerves that control the contractions and expansions of the heart's chambers—and paralyzes the valves and muscles of this wondrous organ. It taints the lung tissue, and leaves the residuum of stinking toxic air in the air-cells that remains for days, to pollute his exhalations.

Doctors and patients need only to recall the exhaled breath of ether and chloroform days after the operating room, or to try to shun the garlic and other odors of the oriental condiments of the recent immigrant days after their ingestion. Through all these circuits absorption is going on, and back-firing, and pulse-halt and heart-block signal the examining doctor, and warn both that the track is wrong; weakened, wrecked. Early, too, in these rounds the centers of both the intellectual and functional brain and spinal cord are being assaulted; in fact, the earliest impact is here, and sensation and motion are crippled. Through these come also the protesting reflexes, the nausea, the tremors, vertigo, convulsions, and deaths.

Why clamor for pure air when every waking breath of the tobacco user is polluted with toxic fumes? The poison is absorbed from mucous membranes and from the skin. The *snuff* and tobacco chewers get theirs by the former way. In Alaska, where the extreme cold cracks the lips and cheeks, while attempting to hold a pipe or cigar in the mouth, the dupe rubs up plug and fine cut and binds it in bags under the arm-pits or over his solar plexus and imagines he gets the effects of his cherished weed. The smoker inhales and exhales, and leaves a trail of highly volatilized toxic residuum along the entire respiratory tract that paralyzes, benumbs, and easily makes a tuberculous victim, adding another race exterminator.

When used as a poultice for spasmodic croup in infants it has caused alarming depression and death. Formerly used in strangulated hernia, it produced pallor, cold sweats, and such alarm that its use in medicine is abandoned; it is too poisonous. Through smoking and inhalation, all these symptoms come more direct, and the fatal invasion is averted by the protest and paralysis that releases the vigil of the flexors of the jaw and lips, that drops the pipe or cigar from the mouth to burn the skin or clothes and arouse the body to salvation.

It is said tobacco soothes perturbed nerves, calms mental and corporeal irritation, smooths business ruffles and domestic infelicity. That is why the messenger and delivery boys must have it as soon as they get around the first corner; why the grocery loafer and dray drivers must have it. It allays itch, cures corns, relieves the irritation of the unwashed, and assuages the hunger of the pestiferous tramp. Any excuse or none suffices to win a recruit and hold a devotee.

Imitation, as a relic of the simian age, remains strong in man. His Caucasian cousin cannot beg ancestral infirmity for his narcotic frailty. He insists he cannot stop it; he must have it. He denies

thumb-sucking to his weakling babe and gum-chewing to his nervous girl, but *he* must take a "cure" to stop it. His immunity lies in his will that tobacco has weakened. Caesar said, "To live is to will." The tobacco user's narcosis made him forget that "he is the master of his fate, the captain of his soul." He cannot escape the obligations of present progressive civilization. He must abandon his quest, his habit of drug, whiskey and tobacco narcosis, and align himself with men and not with monkeys or be left behind in the race. Real men should arise above *imitation*. Imitation is mere servility. Tobacco using is drug slavery.

The blastopthoria, or germ damage, produced by alcohol on the cell wall and substance is now microscopically as well as physiologically and pathologically demonstrated. The same study applied to tobacco gives the same results. The toxic dent of tobacco is made on the incalculably thin film of the cell wall and the poison is projected into the cell elements, even to its nucleus and nuclei. This may be by a vital dynamism or physical osmosis, but the law is unrelenting. It matters not whether this be a squamous seal from the lips or mouth or the palm or back of the hand, whether it be the more highly organized cell from the cortex or the sympathetic, the sperm cell of the male or the sacred citadel of the ovum; tobacco, alcohol and syphilis make the same scar and leave the same blight on sire, self, and progeny.

The blood does not furnish an antitoxin, an amboceptor, against *phytotoxins*. The working principle of Ehrlich's bacterial theory of immunity does not apply against the alkaloidal poisons, plant poisons, like morphine, nicotine, soapin, etc. The body does not develop an immunity against these in the same sense that it does against bacterial toxins; the blood serum does not manufacture or acquire the substance capable of neutralizing these poisons. There is no amboceptor between nicotine and the blood or the cell structures. Neither has an elective affinity been found that is harmless to metabolism or helpful to histogenic structure. There must, however, be a substance in the plant, cultivated, in curing, or added by the manufacturer, that has an alluring as well as a paralyzing effect on cell life and an impairing and a destructive one on the germ plasm. We know that next to reptile venom and prussic acid, nicotine is a most hemolytic, blood-destroying, agent; it breaks the cell-wall of the cell and destroys its nucleus, its vital center. Added to this is furfurol, carbon monoxide, by-products of tobacco combustion, poisons that are readily taken up by the cells and quickly dissolve their primary chemical elements. Within this organism, the cell, besides its elements, is inherent the very potential of life, the nucleus, the primal dynamism that correlates these forces and directs

them to organic function and to final destiny. *This is the determiner of species*, the nearest we get to the Great Directing Divinity. That it is atomic does not deny its existence or dynamism.

Epilepsy, insanity, idiocy, imbecility and all the collateral grades of mental infirmities are on the increase. The statistics of increase of positive defectives over population are appalling—to say nothing of the criminals, substandards and repeaters of common society. To enumerate them would be wearisome. Let this suffice: In Illinois the increase of insanity is 667 per cent, while population increase was only 50 per cent, census 1900. That these unfortunates, wrecks, and derelicts have been cast upon the moaning beach of the Sea of Life in regularly increasing winrows, *parallel with the increasing use of tobacco*, is a graphic and significant presentation that cannot be ignored nor denied. There may be comfort in this reflection, however, that blocking this blight on humanity in part, is absolute sterility in the male, which is also on the increase, in the original, in the secondary and tertiary issues of the tobacco user.

Prof. Howard A. Kelly, of Johns Hopkins University Medical School, quotes, endorses and emphasizes the statement of the late Dr. Prince A. Morrow that “the unpremeditated childless marriages due to the *husband's* incapacity from gonorrhea vary from 17 to 25 per cent, and that 75 per cent of sterility in married life is not of choice, but is due to *the incapacity of the husband*.” But he does not account for the difference between the maximum of 25 per cent due to gonorrhea and the 75 per cent of general sterility. This *balance of infertility* readily points to other toxin than venereal and easily admits tobacco into the ranks for competition for barrenness and this race extinction.

The latest reports (1911) of the Census Bureau show that slightly more than 42 per cent of the infants dying under one year of age in the registration area did not live to complete the first month of life, and that of this 42 per cent almost 10 per cent died as a result of conditions existing *before* they were born—probably of *paternal* assault and toxemia before conception, or of injury or accident during delivery. However, with modern asepsis and manual technique and skill, deaths *during* birth are rare, and this change does not hold true. Of those that lived less than one week, about 83 per cent died of conjugal assault from venereal or other toxic projectile in which the very general use of tobacco would be conspicuous. Of the number that lived less than one day, 94 per cent died of *prenatal* toxins in either or both parents. While these figures exhibit an appalling waste of life, apparently at fetal conception or maturity, they in no degree represent

the accidental and premeditated feticides in *unregistered* districts of the vicious stratum of society, that without doubt far outnumber the figures given in a very small registration area. Registration districts betoken a higher sanitary and ethical standard than non-registration areas, and better conditions are expected to exist.

There are prenatal conjugal considerations here that census reporters do not recognize and enumerate.

Procreation when either parent is alcoholized, or tobacco narcotized, should be prohibited, whether this be acute or chronic. In either way it affords a good example of transient blastophthoria in which the germ-plasm, sperm-plasm, is damaged, so that degenerative progeny is very likely to result.

Nicotine begets very decidedly neuropathic stock. The heredity of nicotine-tainted stock is never on the right side. Nicotine is an ethical as well as a race poison. Heredity as a science has made rapid progress and is advancing. Humans are entitled to equal consideration with plants and animals. Propagation should be made selective from both sides. There might well be a parent inspection before there is the child and pupil inspection, before the "Better Babies" enter their contests. There needs be a standard of narcotic-free fatherhood before a standard of childhood and scholarship is demanded. Prophylaxis should precede prosecution and segregation. It is realized that statistics are the mystics of argument. The aggregate of life is made up of vicissitudes of transmigration, climate, environment, vocational disease and accidents, habit and habit-heredity, disease and disease-heredity, alcohol, syphilis, and tobacco. Alcohol is in almost universal use. Syphilis is all too prevalent; its spirochetæ leave their unmistakable trail in rural and mural "Damaged Goods." But there is a baue as prevalent as *all these combined*. It is the Race Poison, Tobacco; it is running a neck-and-wreck race with syphilis and alcohol for supremacy. No athletic or scholarship test has ever been made in which non-smokers did not excel the smokers; a similar comparison would militate against progeny.

Dr. Frankel-Hochwart, of Berlin, Germany, in an article in the *Deutsche Medizinische Wochenschrift* of December, 1911, relating to several thousand cases in his clinic, emphasizes the fact learned from his experience, that "the localization of the toxic action of nicotine is very much like that of syphilis." These observations are along the line more especially of nervous diseases, brain diseases.

Hesse, in 1907, made similar observations in tobacco intoxication; Huchard and Bunge confirm these clinical data. Much experimentation with tobacco has been done to ascertain the cause of the increase of arteriosclerosis and heart disease, the so-called

“hardening of the arteries,” also the cause of interruption of function and nutrition, leading to mental perversion, insanity, sudden deaths and the many palsies. The earliest observation on this line, and which establishes beyond doubt the deleterious action of tobacco upon the arteries, is that of Isaac Adler, demonstrating hardening in the end arteries of rabbits as a result of feeding them with a tea made of tobacco. Boveri confirmed these results by giving this tea by stomach tube, and caused damage at the base of the aorta in ten out of sixteen rabbits, while Baylac on the same line got the same results in each of eight rabbits into which tobacco tea was injected into veins or under the skin. Jebrowsky and W. E. Lee obtained the same results in other rabbits by making them inhale tobacco smoke. A great number of experimenters with tobacco in this country and Europe obtained results so akin to these that no other conclusion can be entertained. The general conclusion is that a toxic principle in the tobacco is the cause of arteriosclerosis. What more prevalent toxin is present than nicotine or other tobacco toxins?

Chewing, more than smoking, through absorption and hemolysis, also causes an acidosis of the blood which increases blood-pressure, strains the heart, impairs the kidney's function, precipitates the soluble calcium into calcium carbonate, whose granules find lodgment in the lattice framework of the media and produces the arteritis nodosa of arteriosclerosis. The *high blood-pressure* will account for some of the flights of genius and descents into iniquity of some great minds otherwise blameless. *Tobacco toxemia is more to blame than alcohol.* A man usually knows when he is drunk, but rarely knows when he is tobacco inebriated.

Dr. Ludwig Jankau, of München, carried on experiments and observations in his nose and throat clinic through a period of three years before issuing his brochure “*Der Tabak*,” in which he pours a deluge of evidence against tobacco using. A society of scientists and physicians worked with him and confirmed his investigations.

That tobacco is a causative factor in heart and blood-vessel diseases is apparent in this—that tobacco is promptly excluded in the treatment in all diseases of the heart and arteries.

Dr. Hirschfelder, of Johns Hopkins University Medical School, author of a classic treatise on Diseases of the Heart and Aorta, says, “Tobacco should be absolutely excluded in both *organic* and *functional* cases.” A. Abrams, of California, places tobacco non-use ahead of alcohol in both prevention and treatment of heart diseases. Bovaird, of the Columbia University Medical School, New York, is equally emphatic in demanding immediate abstinence in

all heart affections. Similar quotations of eminent authors could be continued *ad infinitum*—and the users will say *ad nauseam*. Dawn is coming. If abstinence aids to cure, why not total abstinence to prevent? Nowhere would the adage of ounce of prevention and pound of cure be more appropriate. All alienists also recognize that in the insane, heart and blood-vessel diseases, congenital or acquired, prevail.

Experiments made with plants demonstrate that solutions of poisonous substances, accidentally or intentionally introduced into the interior of the ovaries of plants, mar their form and even change their character. Wisconsin University has a field lecturer making investigation and experiment in this line. Can man saturate his germ with poisons and escape so great a condemnation? Sterility is preferable to inferiority or imbecility.

A neuropathic inheritance is often a nicotine inheritance. In Switzerland idiots and imbeciles are called *Rausch-Kinder*, ‘‘jag children.’’ In this country they might, with equal propriety, be called *Rauch-Kinder* or ‘‘smoke kids.’’ If this recognition has become so apparent that it has reached the stage of popular jesting, should it not arouse the serious-minded? The Western World is shocked at the burning of widows on the funeral pyre of the husbands in India. We are slowly consuming on the pyre of tobacco beautiful boys in the prime of life and the vigor of manhood, father’s pride, mother’s darlings. We turn pale at the mention of the ‘‘Yellow Peril’’ in the East, while a yellow peril greater than the entire Mongolian horde is menacing our youth and our race. Race came from ‘‘the beginning,’’ race should extend far beyond the eternity of ‘‘the beginning,’’ into the eternity of the future, ever advancing, never receding.

Temples and tombs survive, but the earth is fertile with the bones of extinct races. No monument is so favored of God as that which in His image continues achievement in His name, through Race Betterment.

Discussion.

The Cigarette

MISS LUCY PAGE GASTON, Anti-Cigarette League, Chicago, Illinois.

Recently a returned missionary from China said that it was impossible for the Missionaries of the Cross to go so far into the interior of that great, giant land that the cigarette missionaries were not there before them. That is what they themselves call ‘‘cigarette’’ missionaries. They make the claim that by the introduction of cigarettes they are helping the people to free themselves from the curse of opium. The American Tobacco Company, and the British American Tobacco Company, and the different organizations

that are preying upon China today, estimated that they could afford to give from fifty to one hundred cigarettes free to every man, woman and child to upward of four hundred millions of population in China. They did, and now there are hundreds of factories pouring forth their products in that country. There is an organization being formed in China by Dr. Wu and other patriots to combat the evil, which is only second to the opium habit. Do you people know that the opium addict will smoke a cigarette at the close of his debauch for the added pleasure that it gives?

That is the product that is in the hands of the immature youth of this fair America. In this Race Betterment Conference I wish there might be some ringing protest that would reach every nook and corner of this land, warning the people against the dangers from this. Ninety per cent of the high school boys and the college students today are addicted to cigarettes or to some form of tobacco, and because tobacco in some form is the vice, the popular vice, of good men, it is only the most incidental mention that is given to this question.

But, friends, what can we do about it—this question that we are struggling with at our headquarters at the Woman's Temple in Chicago and that our paper, *The Boy* magazine, the official organ of the league, is dealing with? Today we are undertaking to organize a force. The strength or the charm of organization to youth is well known. We have a plan of organization that should be introduced in every community in the country. There seems to be something about this anti-cigarette movement, this "A. C. L." button, that arouses the heroic element in the young American.

Today the prohibition movement is the thing, but it is only part of the thing that is needed. What we need today is a great inspirational campaign for total abstinence, not forgetting tobacco and the other drugs that this good Doctor from Alabama brought to the front. We ought to have in every community a clean-life movement. Anti-Cigarette League stands not only for anti-cigarette league but for a Clean Life—yes, a Christian Life, a Consecrated Life. We have in our movement a thing that we can go into public schools with. There is a great opportunity for a getting together on that. People think I am loony, you know, on this cigarette question. Well, it is time somebody was. I see in this Conference an opportunity to reach out and do all of the things that are needed.

A minister of Chicago who is very active in law enforcement work in civic affairs stated to me in our headquarters at the Woman's Temple one day, "Miss Gaston, some of us have never gotten to the point of total abstinence of cigarettes and things like

that." He said, "Why, really, I would not care to introduce a total abstinence pledge into my church." He said, "The leading members of my church have wine on their sideboards and beer in their cellars," and he said, "Other than the children, who will do anything that they are asked to do, I don't believe there would be half a dozen who would sign a total abstinence pledge." It was not very long after when that man came into our headquarters and said, "Miss Gaston, what do you think has happened?" I replied, "What, Doctor?" "Why," he said, "you know my little boy, Robbie?" I said, "Yes." "Well," he said, "I found he was smoking cigarettes." "But," I said, "be careful, Doctor, now. Don't get hysterical." "Yes," he said, "but when a thing like that comes right into your own home, you have to wake up," and he said, "It was one of the boys of our own Sunday-School who was teaching him to smoke out in the alley, and his sister found it out." "What did you do, Doctor?" I said. "Oh, I sent the boy away and told him to keep off the premises." I said, "What I think you ought to do would be to organize a work in your church against the cigarette."

In New York City I was doing work among the boys of the Postal Telegraph Company. About one hundred of those boys, from homes of all nationalities, joined our league. I spent about an hour every night, from 5.30 to 6.30, among those messenger boys—gamblers, drinkers, all kinds of boys. One night a Hungarian boy came to me and said, "Miss Gaston, I want to sign for life against tobacco, but," he said, "I don't want to take the temperance pledge." (We have the temperance pledge on the anti-cigarette blank.) I said, "Why not, Frank?" He, a seventeen-year-old boy, said, "We are Hungarians and we have wine every night for dinner at our house and I don't think it would be very easy for me to see the others drinking and I not drink, but," he said, "I want wings on my button." We put a little red ribbon on the button to indicate total abstinence for life from both liquor and tobacco. A boy can join until he is twenty-one. That boy signed up for both. The last thing he came to me and I said, "Well, Frank, how did you get along without your wine last night?" and he said, "Well, my brothers never did a thing to me, but my father never said a word." I said, "Frank, I believe your father was proud to have a boy who stood for what he believed to be right. Are you sorry you signed up?" "No," he replied, "and I am going to stick to it as long as I live."

We are not giving the boys and the girls today a chance to have their blood stirred by any great splendid, heroic moral reform. We have the plan and I want to invite you all to help us.

*Discussion.***The Cigarette-Smoking Hero of Fiction**

DR. AMANDA D. HOLCOMB.

Because of my blind mother, I am obliged to read a good deal of fiction, and to select what she desires. I read the best fiction I can find. In that fiction I find the purest, sweetest, most ennobling hero smoking cigarettes. I believe this one thing has a very strong influence on the best-reared boys and perhaps girls. I tried to investigate this subject. I am informed that there are only two magazines in the world that are absolutely independent, that cannot be bought and are not bought by the tobacco trust. In many instances it seems to me that the writer of these pieces of fiction did not put that cigarette into the hero's mouth, but that it was interjected in the publishing offices. I should like to know more about this and what we ought to do.

*Discussion.***Magazine Advertising of Tobacco**

S. S. McCLURE, President S. S. McClure Company, New York, N. Y.

My name is S. S. McClure, of *McClure's Magazine*. I did not hear this address, except the last two or three words. Now, then, I have heard many times about newspapers and magazines being controlled by the trusts. Last year there was a meeting in Madison, Wis., of people to discuss that question. Professor Ely, of Madison, is here with us today.

Now, there is much loose thinking on this question. Magazines are controlled by the necessity of paying their expenses and making some money. If a magazine were controlled by the trust and it did not suit its subscribers and advertisers, it would fail. It is subject to exactly the same economic laws that obtain in every other business. The main support, the life blood, of a magazine is the confidence of and the money from its subscribers, upon which, secondarily, is based the revenue from its advertisers.

Now I know the magazine business very thoroughly, and I deplore the present quality of most of the magazines. I left the magazine business two years ago, since which time the magazines have not improved. But no magazine and no newspaper can prosper if it is the organ and the servant of any institution, financial or commercial, or of any trust or of any business like that. Such a magazine ceases to have revenue and ceases to have influence. When people supposed that Mr. Morgan, whom I greatly honored and respected, owned the New York *Sun*, which he did not, the New York *Sun* lost a large share of its influence.

No publication may have what makes a publication live if it is subject to outside control. The reason is this, that, after all, every publication depends upon pleasing the people. If it does not please the people, the advertiser does not find that it pays. It has to have the support of the people. Now if it tries to please a particular interest, it cannot please the people.

I heard that remark about the publisher putting a cigarette into the mouth of a hero in the office. He does not, as a matter of fact. I have often taken them out of their mouths. The editor, the publisher, generally takes things as he finds them. When a chap like Richard Harding Davis writes, the hero smokes a pipe—almost all of them smoke a pipe. I had certain rules about *McClure's Magazine*. One was this, that nobody except Rudyard Kipling could say "damn" in *McClure's Magazine*. I did not like anybody smoking in *McClure's Magazine*. I did not like any picture of smoking in *McClure's Magazine*. But if they had these pictures, it is not because of the trusts or of this or of that; it is simply because of the general taste of the public.

Dr. E. G. Lancaster, President Olivet College, Olivet, Mich.: Isn't it true that the tobacco advertisements are so valuable to a live magazine that they cannot do without them financially?

S. S. McClure: That is not true; that is not true at all. It is not half true. All advertisements are valuable to the magazine in the way of money. The advertising in magazines has grown a great deal less than it was a few years ago, so that many magazines that a few years ago would refuse tobacco advertisements are now accepting them. Some of them hate to accept them, but they all do it, they all accept them—just as *Harper's Weekly* for many years accepted whiskey advertisements, when other magazines would not. Magazines won't take whiskey advertisements and patent medicine advertisements, but their morality is just to the point where they will take tobacco advertisements.

Discussion.

A League of Employers

MELVIL DEWEY.

There are many people who feel strongly, in this race betterment effort, that the tobacco evil ought to be combated as the opium evil is combated. Psychology teaches us that the human mind is incapable of seeing in any right light the evil of a habit of which it is the victim. The liquor user smiles at the facts presented by those who are opposed to liquor. We hate to say things when we know

all our personal friends are hit. It comes back to us. A negro clergyman who was asked why he did not preach about chicken stealing in his church, said that it would create so much prejudice in his congregation he did not feel like taking up the topic.

I have this practical suggestion to make in regard to tobacco. In talking with Dr. Kellogg, he suggested that an outcome of the Conference ought to be a national league of employers who would refuse to take into their offices, as I have for many years, a boy who uses tobacco or liquor or profanity or vulgarity. I have had hundreds of cases where a man says, "I won't do it in official hours. You don't mean to say you wish to interfere with my personal liberty?" "Not in the least," I always answer, "but you must not interfere with my personal liberty, and a part of my liberty is to be free from the annoyance of tobacco, and the people who go about our offices shall be free from that annoyance." I have had many cases where young men have given up their use of tobacco because they wished the position, and their wives have come back and thanked me heartily for breaking them of the habit, so that the men had no desire to return to it.

Then we run into this difficulty, that so many of our physicians are tobacco users. It is almost unheard of for a man who is a drink addict or addicted to opium or tobacco to share in a campaign against it. Many of our clergymen also use tobacco. I have known delicate women, with high ideals, to go to a communion service and be physically sickened and nauseated by the odor of stale tobacco on the garments of the priest officiating. [Voices, "Shame!"] It is a shame, and when one goes back to the question of professing the religion of Jesus, it seems like sacrilege that one should be a user of tobacco.

Now if we face frankly this question, we see that while it is a widespread evil and many of our friends whom we prize in the highest degree, whose feelings we would be very sorry to hurt, are addicts of this habit, we still recognize that it is a strong factor in making a race of runts. If we would begin with a league of employers who should say as a matter of economics and of practical business wisdom, "We will not employ in our offices or in certain places any young man who uses tobacco, liquor, profanity or vulgarity," it would help immensely. For the boy who wants to get on in the world, if he knew a thousand employers in America would absolutely refuse to have him in their employ, it would help him to take that attitude, and as a practical example, it would be easier to combat the evil. I wish we could prohibit in the magazines and all publications the advertising of tobacco. I believe the time is coming when we will recognize, as we have with the opium habit, that it is

a thing that is pulling down the race. We ought to push it into the background as persistently as we can.

This does not appeal to us as it ought to, because we are so familiar with it. But just stop for a moment and consider: If a person went into the street car or public elevators, and burned some chemical that gave off a fume that the chemist told us was as poisonous as they tell us the fumes of tobacco are, there would be a mob. The burning would be stopped. As it is, we go to the best hotels of the country and are put into rooms where the mattresses and the carpets and the hangings of the room are redolent with an odor that would not be tolerated from anything else in the world. But we are used to this.

My suggestion is the suggestion of the law. We should control the sale of tobacco, as the French do, and make it no longer an object for the small dealers to induce the boy to become a smoker. A woman has just as good a right to smoke as a man, and we find in the women's clubs of the great cities that the European habit is spreading, more and more women are smoking, but I believe that men who respect women in the highest degree feel that there is something lowering in it to womanhood. In the Lake Placid Club we have put our foot squarely down. Whatever a woman's social position or wealth, she cannot smoke at the Lake Placid Club. We feel that while she has as good a right to smoke as the men, it is pulling down the standard, and we will not tolerate it. Let us put our feet squarely against that growing habit of American women and girls to smoke.

Miss Lucy Page Gaston: May I add one word on that last point. Since the first of August, 1913 [to January, 1914], at our headquarters in Chicago, we have had over sixty thousand applications for our cure of the cigarette and tobacco habit. Of that number quite a good many were women who applied for the cure. So the women today are smoking.

Voice: Here is a good place for another "single standard," if you please.

Discussion.

The Non-Smokers' Protective League of America

DR. CHARLES G. PEASE.

My topic is the "Harm of Tobacco-Poisoned Atmosphere." The poisonous character of tobacco smoke is not generally appreciated. People know that the florist employs tobacco smoke to destroy the animal life in the greenhouse, but they make no application of that knowledge to the tobacco smoke in public places, as affecting the

human race. Surely, if a poison is great enough to destroy the animal life in the greenhouse plants, it will do some harm to the human family.

The poisons in tobacco smoke, or quite a number of them, have been enumerated by Vohl and Eulenberg and others. I will not attempt to name them now, on account of the hour, but I would refer you to the United States Dispensatory and the article on tobacco therein. Smoking in public is a violation of a constitutional right of individuals to breathe pure atmosphere. I will read here the declaration of the Non-Smokers' Protective League of America, which I represent:

First: "That the right of every person to breathe and to enjoy fresh and pure air, uncontaminated by unhealthful and disagreeable odors and fumes, is one of the inalienable rights guaranteed by the Declaration of Independence and the Constitution and the Laws of the Land."

Second: "That tobacco smoking in public and from our public places is the direct and positive invasion of this right, that it is dangerous to the public health and comfort, offensive and annoying to individuals, and an intolerable evil in itself. We do, therefore, pledge ourselves first to encourage and insist on the enforcement of all public laws, ordinances, rules and regulations prohibiting or restricting tobacco smoking in public and to secure the enactment of any other laws, ordinances, rules and regulations which may be or become necessary for such purpose, and to cooperate with Boards of Health, Police Officers and all Executive and Administrative Officials and Departments to secure full and effective enforcement thereof."

Third: "To secure the cooperation of all persons in control of buildings, halls, elevators, hotels, restaurants, theatres, street cars, railway cars, sleeping cars, dining cars and other places provided for the use of the general public, to prohibit tobacco smoking therein, and to limit and restrict it so that only those who indulge in the habit may be required to inhale tobacco fumes."

Fourth: "To create a wholesome public opinion, and to encourage individuals, whose rights and comforts are disregarded by tobacco users, to insist upon proper respect for such rights, and to protect the same from invasion to the fullest extent guaranteed by the Constitution and the Laws of the Land."

We issue a legal opinion in leaflet form which indicates the right to use force, if necessary, in terminating this most persistent nuisance. Our League is composed of some of the most prominent men

in this country. We desire, through the medium of this League, to accomplish the purposes that we have started out to accomplish.

In New York City we have, through the Public Service Commission, which gives us a hearing upon our application, the exclusion of tobacco smoking from our cars and stations, from the rear platforms of cars and from the four rear seats in convertible cars in summer time. We are on the way, I believe, to a still better order of things there. The United Cigar Stores Company endeavored to nullify our victory through securing 72,000 signatures to a petition which they issued asking for smoking cars upon the elevated railway structure and upon the surface lines or compartments therein. We combated that, and defeated the Company. I should like to read here some portion of our brief, which we handed in, as it will be helpful to others. We claim:

"First, that to require street railroad corporations to maintain a nuisance or for city corporations to maintain a nuisance would be a violation of a principle of law, and opposed to the provisions and guarantee of the Declaration of Independence and to the Constitution of our Land. The right to make laws and to prohibit smoking in public places was taken to the highest court in Alabama and was there sustained. To show also the poisonous character of tobacco fumes: There was a case in Alabama, *Hudler versus Harrison* 26 S. O. Rep, 294, 123 A. L. A. 292, where the fumes from a tobacco dry house made the people in a residence a little distance away very, very ill. The highest court stated in its opinion that that dry house was a nuisance and compelled it to be closed."

CHILD LIFE

THE BAD BOY

HON. JACOB A. RIIS (deceased), The Jacob A. Riis Neighborhood Settlement, New York, N. Y.

They brought the kid into police headquarters between two policemen, bound. I was there and saw him come. I don't believe in all my twenty-five years in that place in New York City as a newspaper reporter that I had ever seen a ruffian who bore the earmarks of it so plainly upon his face and over it as did that kid. He was all smeared over with blood and had great bumps on his head where the policemen had struck him. He had not been idle, apparently, for the men bore marks of his fists; their clothes were torn down their backs. They were the two angriest policemen I had seen in a long while. They passed me in the hallway and I took notice of the fellow. I knew of him by reputation. He came from the neighborhood of "Hell's Kitchen," a lad about eighteen or nineteen years old, a husky fellow. They took him into the detective's office, the headquarters. There they measured him, photographed him, indexed him, hung his photograph in the Rogue's Gallery, did all the things they could to make him more sullen, if possible, than when he had first appeared. When they had held him up before the assembled detectives, then they brought him again through the hallway on the way to the jail and to the gallows, as they said, by way of the Jefferson Market Police Court. That was the police verdict on the kid.

As he passed me in the hall, the sunlight fell into that fellow's face—into the eyes of the kid—and something there made me suddenly turn and go along. I think the soul in me saw the soul of the kid, and owned it for kin. We walked down Bleecker Street and I talked to the policemen. They told me what he was, what I already knew, and then I turned to him and said some pleasant words. He gave me one of the most vicious scowls I had ever seen, and he told me to hold my tongue and attend to my own business. And I did just that. I said no more. Walking so, we came to Broadway, which we had to cross in order to get onto the East side, to the Jefferson Market Court. In those days the cable cars ran on Broadway. I don't know whether or not Battle Creek has ever had experience with cable cars, but we had them for a little while in New York. As I now look back, it seems to me the one thing I sum it all up in is just this: They were never normal; they were either jammed, stand-

ing on the street immovable, or else they were running away—one or the other. They were jammed when we reached Broadway, and we stopped with the prisoner between. They started across the street, but just as soon as they put their feet upon the other tracks, there came a warning cry a little farther up the street that made them step back quick out of the way of a runaway car. What happened then, was, I suppose, in the flash of one or two seconds. To me, it seems, looking back, as if it were half an hour. I can see that car come rolling down the street with the speed of a race horse or a cyclone, and the motorman trying to brake with the grip of despair, and ringing the bell on the platform with his foot, trying to clear the way a little, his eyes bulging with a kind of stare, as he looked down on the track in front of him. I followed his eyes and saw the thing that frightened him and my heart stopped for the longest period I think I can remember. For right in the middle of that car track was a little toddling baby with yellow curls, and its little face showing pain. The car was only ten or fifteen feet away at the time I saw it, and the little baby hand was held up as if to stop it. I caught just a fleeting glimpse of a frantic woman on the sidewalk, the mother evidently trying to reach out and save it, and three or four men holding her. The child was irretrievably lost. I turned away so as not to see it. Everything turned black before my eyes, because I had little children of my own at home. But just as I did, I heard another cry, and just at that moment I knew the "kid" had taken to his heels and run. It seemed an age before the light came back to me, and I fell mechanically in the wake of that car to see the mangled remains of the child, but the street was perfectly clear. There was nothing there and when I came entirely to myself, there stood the kid alongside of me, with the baby in his arms, safe and sound, setting it down upon the sidewalk and disengaging its little baby hands from his big, rough finger. He had just about one chance in a million of saving his own life, doing what he did. While the rest of us stood like so many fools looking on, good, square citizens all of us, who had had no encounter with the police, the kid—then indexed, you know, in the Rogue's Gallery, at that very moment on the way to jail and the gallows, according to the police—jumped and risked his own life ten thousand times in saving that child. He made the longest jump I ever heard of, in doing it, because that was the beginning of a new life for the kid. He not only jumped across the street, but jumped clean out of the old life into the new. When I last heard of the kid he was a trusted workman in a factory with a wife and baby of his own at home to keep in a straight way. You see, friends, I didn't make a mistake

when I had seen something in that fellow's eye—the image of God that is in all of us, the thing we call manhood and womanhood when it grows up and gets a chance, if it ever gets a chance. The kid had never had any chance at all over in “Hell's Kitchen.” He came out all right in that chance. A man he came out.

Why am I telling you that? In the first place, because the kid was the worst boy I ever knew in all my experience, and I have known many, all of them in my own city; and in the second place, because I want you to go home from this Conference with a true note of it all—regeneration, not degeneration, is the note. Regeneration along the first and only real line, better babies, born into a better, brighter world, made better and brighter by the hope and faith and the skill and the devotion that they inspire.

We have heard friends here talk about heredity. The word has rung in my ears until I am sick of it. Heredity, heredity. There is just one heredity in all the world that is ours—we are children of God, and there is nothing in the whole big world we cannot do in His service with it. That, friends, is what we are here for. Regenerated, reborn, as the world was when it was born into the understanding at last of the Commandment that we love one another unto the service of the practical.

We talk here about insanity. In the old town in which I was brought up—in Denmark—there lived, 200 years ago, a Bishop, who will be remembered to the last day, because he sang some of the sweetest songs in the Danish tongue, hymns that began with men and women, trouble and suffering, the very brink of the day, to the last. That was the service he performed. There was in that time, in that day, among the preachers, curiously enough, one of those yellow, vicious, jaundiced souls. He came to the Bishop and said: “It is easy for you to sing of heaven and glory and happiness, for you have no trouble; you live in a fine house, you have everything that man's soul could wish, but what about us?” And the Bishop said: “Come along,” and he led him upstairs, two or three stories up, to an attic room, and he opened the door, and there, clamped to two iron bolts in the wall, with chains, was his son, his only son, a raving maniac. That, friends, was how they dealt with insane patients at that time. The iron bolts are still there. I remember very well in my childhood how they put them into a big place behind the fence, in which we boys pulled out the knotholes and looked through and shuddered at those glooms behind the fence.

That was the way, friends, we treated insanity even in my childhood, and see what we do today, in New York City, in my own town, in the span of fifty years since that venerable man who has presided

over your deliberations here, Dr. Stephen Smith—since he broke the past as chairman of the Citizens' Council of Hygiene in the early '60's. See what a great change has happened since then in my city. In the last fifty years we have rehoused the population that lived in our tenement houses, more than a million and a quarter. They lived often in an environment in which all the influences made for unrighteousness and tended to the development of the worst instincts of the young. We found pretty nearly four hundred thousand of dark, sunless, windowless, airless bedrooms in those tenement houses. We got rid of three-quarters of them. The other fourth we will get rid of before this Congress has met three times more in Battle Creek. In that day, when Dr. Stephen Smith presided over the early deliberations of the citizens in my city, we were afraid of the coming of cholera. That is why that council of hygiene was organized. In that day the death rate in my city was thirty in a thousand of the living every year. Last year, the year that has just closed, in my city it was something over thirteen. That means that in the interval we have so amended things, in the biggest city of our land, that there would have died in 1913 one hundred thousand more people than actually did die if the old death rate had been maintained with the present big population. These are some of the things that we have done.

We have added a thousand kindergartens to our public schools, and if there are any here who do not know what that means in the education of the children of the people, I pity them. Within the last ten or dozen years we have made more than four hundred playgrounds in schools and streets everywhere for the children. There was not one before that time. We have now seventy social settlements in my city that are morning, noon and night looking after the lost neighbor. There was not one twenty-five years ago, friends.

Babies—we have heard a great deal about babies here. It is all a matter of loving care, friends, but don't misunderstand me. The emphasis is upon the loving care. We find in the streets and gutters and sewers of our city every year something like three hundred or so of foundlings, of outcast babies that nobody wants. We used to send them to Randall's Island to the Babies' Hospital and there they died. The mortality among the outcast babies, the foundling babies, was one hundred per cent right straight along. None of them survived. We explained it as we could by saying that they started out with a bad heredity, the heredity of the gutter or ash-barrel, and a cold night is not conducive to the long life of any baby. We tried every conceivable way upon the Island to mend this, but it would not work. It was finally not the doctors' efforts with their knowl-

edge of science that mended it, but it was the efforts of the mothers of my town. There are two bodies there known as the State Charities Aid Association and the Association for Improving the Condition of the Poor.

A lot of women connected with those, mothers themselves, one day decided that that scandal was no longer to be borne, so they went to the city and begged for some of those infants to experiment with. The city gave them some. For eight years they experimented with those infants and in that time they had sent to them one thousand babies. These were the babies among whom the mortality used to be 100 per cent. In the first year they reduced the death rate among those babies to one-half; the next year to one-third. They went upon the assumption that every baby in the world is entitled to the care of one mother's arms and if it cannot have that, it is cheated. And they proved their contention. The first year they saved one-half the babies and the next year they saved two-thirds, and the third year at the same rate. By the eighth year, they had reduced the mortality among those babies to 11 per cent, which was a great deal less than the general infant mortality in the city. They were picked mothers, you see. The rich mothers are not always the wise mothers, by a good deal, you know.

You see, friends, what it is we are doing. Have you recently read the parable of the good Samaritan? That is what we are doing. We are finding the helpless on the roadside and we are caring for them, binding up their wounds, pouring in oil and wine. But we are doing more than that, friends, nowadays. We are policing the road to Jericho so there shall not be any more of the kind of robbery and assault that left a man lying helpless on the roadside.

And are we done? No. Thank God, there is something to do yet. Don't let that discourage anybody. Let us be glad that we have a chance to work with the Almighty, because that is emphatically what we are doing on that road. The whole thing is just climbing a mountain, friends. You go up, up, and the farther you go up the mountainside, the more you see of the landscape. You are always improving, therefore, for every time you set two things right, there are five or six or eight or ten that remain still to be made right. Let us be glad. The work won't give out in this generation.

Now, I came to talk to you about the bad boy. My position on the bad boy is very simple, very emphatic, very direct. I believe with the Eastern schoolmaster, who said that there were different degrees of good boys, but bad boys, he didn't know of any. There are, dear friends, not any who are deliberately bad, but plenty whom we make bad. Even then the boy would rather be good than bad, as one of

them said, if he was given a chance. That chance is the environment which it is our business to provide.

Let me tell you of one bad boy of my personal, close acquaintance. I am the boy. I ranked as a bad boy when I went to school and a good reason why. I was taken to school first by an angry housemaid who thrashed me down the street, hammering the pavement all the way down. I was all the time bawling, yelling and I didn't want to go to school. On the step of the school stood the teacher and she reached out one long, skinny arm, grasped me by the neck, yanked me into the schoolhouse, then down into the cellar, then over the edge of a hogshead that stood there, then put the lid on, then snarled through the bung-hole. That was the way they dealt with bad boys in that school. I saw there was no chance to get out till I ceased howling, and I ceased howling then and there. Then at recess she introduced me to a sow with pigs in the yard. She showed me the ear with two long slits, and said that was because the sow was lazy, reaching the shears up by my ears, zip.

The Latin school was founded in 1859 and it had all the traditions of those old days. I no more fitted into that place, well, than I would fit into Kingdom Come, I suppose. Now, beside me was another boy of exactly the same mind, and we were exactly of the same size, well matched. We never could get it settled which boy could put it over the other one. We left before the university days came, and the school was glad to get rid of us. The other lad, Hannes, went into business and became a very successful business man. He is today a member of the Upper House in the Parliament, from the old town itself—and with good reasons. He is a splendid citizen. I came over here—and do you see what kind of a scallawag I became here? Some years past I went back to meet forty of my classmates. They were doctors, lawyers, clergymen, fine as silk, all of them, and we were the two black sheep they were glad to get rid of. That day I saw the King confer an honor on the other boy because he had been the head of the citizens' committee that had labored to restore the ancient Cathedral that was being rebuilt. It was the occasion of my going home. King Christian had conferred that very same honor upon me three or four years before. That is the ribbon I wear in my coat now. When I looked down the buttonholes of all the rest of the boys, these solemn men who had come from our school, I was surprised that there were only two ribbons in the whole lot, and they were worn by Hannes and myself. You see, friends, we were the two bad boys.

Now take the boy here, take the boy who lives in a tenement house in the city, in the environment that makes for unrighteous-

ness, perfectly hopeless, underfed, stunted, boxed up at night in one of those terrible sleeping rooms I spoke about, without light or air or anything. There was a neighbor of mine, who in her back yard made a pile of sand for her children to play in when they came home from school and they played there and the cat and the kittens and the dog were with them, and they had a very happy time—except that there was always an ancient feud between the dog and the kittens. Whenever their backs were turned and the dog could grab a little kitten, he would try to kill it, bury it in the sand, and get rid of it. One day they were too late to protect it and they found a dead kitten in the sand. I was in that house when the little girl came racing in with it in her apron with her eyes all flashing with anger and she said, “Mamma, there is a perfectly good cat spoiled.” Hundreds of perfectly good children are spoiled in that kind of tenement house. That is how we make bad boys. Then we turn them into the street and there, until ten years ago, we had no playground, none whatever. What is an American boy, anyway, but a little steam boiler with the steam always hot. The play of that boy is his safety-valve. Sit on it, hold it down, and bang! goes that boiler. We have formerly provided no outlet for their natural steam, and bang! went the boy every time. I am afraid it is not so different in the country, either, for when the good boy has to get up at four o’clock in the morning to do the chores, I cannot imagine the kind of sentiment in that little lad’s mind, but I can easily imagine why he gets away from the farm—and sometimes goes to the devil, too.

In our school we have eliminated the old-time hogshhead and pigsty, but, friends, we are not out of the woods, and we will not be out of the woods until we make our schools places for boys and girls to be fitted for the work of the life they are to live—where we teach our boys not to be ashamed of overalls and rough hands, and to prefer the job of an honest mechanic to standing behind a counter in a boiled shirt and earning six dollars a week and looking nice. I know what I am talking about. I learned the carpenter’s trade where our girls learn home-making and housewifery or where men and women are moulded, with college in the far background. There are entirely too many good mechanics spoiled to make very poor professors, friends.

So with the home and the play and the school. Is it any wonder the boy turns out bad? But what do we mean by bad, anyway? Did I tell you the story of how I came into Portland, Me., and found the town all excited about a young Irishman who had been committing a number of robberies? They had arrested him, a boy of

fourteen, for stealing a handbag. This particular bag contained sixty-eight dollars. They asked me to come out and look at the lad. I wish I had had Judge Lindsey there; he would have been an expert on that lad. I saw the finest boy I ever saw in my born days, brimful of fun. I asked, "What did he do with the money?" because when you can find out what the boy does with the money he steals, you can then get a line on what is really in him. First he summoned two pals and they divided it up and got one beautiful big feed. Then they bought a bugle to make music—and couldn't blow it. Then they threw away all the rest, excepting that each one kept a ten-dollar gold piece in his pocket. And what do you suppose he did with that last ten-dollar gold piece? He took seven dollars and a half of it, went up to the Young Men's Christian Association and bought a membership ticket there. Where now is your bad boy?

The Children's Aid Society, in the last sixty years, have sent seventy thousand and more boys out of the slums of the cities to the Western plains, where they have a chance to grow up. If you could see the army of clergymen, lawyers, doctors and splendid nice playgrounds we have turned out of the slums of my city, and two straight governors—good governors, too, both of them. About four per cent of all the boys went to the bad; about four per cent of any number of boys anywhere goes to the bad, anyhow, from general neglect, that is, running wild. They were taken too late, I presume.

Now we have good playgrounds and the pedagogue is at work trying hard to class and enroll the boys' play into team play, into group play, and heaven knows what other kind of play. I say, let them run and let the boy have a show of his own—hands off the lad except for overseeing his play, otherwise you may see him run to the gang. See to it, but keep away from him, and let him have it and let him run it. Let him kick up his heels in perfect aimlessness and drop in a giggling heap somewhere, and if he wants to fight, let him fight. Sometimes a black eye and a bloody nose is a means of grace, you know. What boy is there that is worth his salt unless he has a good fight every day or as often as he needs.

What mistakes we grown folks make, but we think we can lay down rules for everything. You have heard it these last few days, laying down rules for everything. Happily the rules won't hold. The youth is always renewed with just so much badness in every generation to keep it from souring or from petrifying. The bad boys have always slipped up. There is almost always a mistake—and we are the mistake, not the boy. I hope we shall have him with us always, to sharpen our wits on and our consciences on. And let me tell you, you women know perfectly well how to deal with him.

The men don't know always. I think men are the greatest misfits in dealing with bad boys, that ever were—including myself. I had one, and I didn't know how to deal with him at all, but my wife did. The women know. You believe in that bad boy, and, ten to one, yes ninety-nine to one, he will come out right.

What things would the world have done in all the ages but for the boy who did not fit in? He was fitted bad, and so went out to find the place where he did fit in and broke half the task upon which the whole world has been following behind in his wake, to a better and a brighter and a happier day. Henry Ward Beecher said of himself that the only time he stood at the head of his class was when the class deserted him. That was my experience, and I remember very well—but I won't tell you about that. That night when I discovered that Hannes and I wore the ribbons alone of the crowd of us old classmates, I went to have dinner with him and sitting across the table, it came to me suddenly, the thing worked out in my mind and I looked fixedly at him and said, "Hannes, has it occurred to you?" and Hannes stopped me with an imperious wave of his hand and turned around and said to his boy, "Fritz, why don't you go out and tend to your business?" Fritz went out and as the door fell to behind him, Hannes said, "Yes, it has. I am not going to have him here because he is at that end of the bench now." When General Grant was President one day, in a sudden panic, he wrote to West Point and asked them how things stood with his boy Fred, who was down there. Word came back from West Point, "Don't you worry. He stands better in everything than you ever stood in anything." You have all known those bad boys, friends. They are not bad. They are just on the fence, and haven't made up their minds on which side to get off.

Let me tell you of my own little boy at home when he was five years old. He peeled off the label on the ammonia bottle and we found it pasted on his door, and it said, "William Riis very strong." Just about that time, one day, he went to his mother and said, "Mamma, would you be very mad if I was to be a burglar when I grow up?" "Oh," she said, "a burglar!—and you might get arrested." "Well," he said, "well, all right then, I will be a sailor," and she pleaded with him not to be a sailor. She said, "You have one brother who is a sailor and shall I sit out here and think of you on a stormy night on the deep black sea?" And he said, "What shall I be? A fellow must be something when he grows up. He can't always be nothing." She said, "Would you like to be a little minister. We never had a little minister in the house, and wouldn't it be so nice?" and his face went right under a black cloud. He

didn't like it for a cent, but he left his mother and after a while he came over and said, "Well, all right, all right, if I can't be a burglar and you won't let me be a sailor, then I will be a minister." The lad was simply on the fence, not having made up his mind on which side to get off, and our business was to help him get off on the right side.

ACTING CHAIRMAN REV. C. C. CREEGAN, D.D.

I scarcely know what to say about the next speaker. He lives in the largest city in America that has the reputation of being above the clouds. It is nearer heaven than any other large city that I have any knowledge of anywhere in the world, and I have seen pretty nearly all the large cities in the world. But there are some things about Denver, if I am not very greatly mistaken—and I lived there two years—some things that do not exactly remind you of heaven. And if there is any one man in all the Rocky Mountains that the saloon-keeper, the white-slave cadet and all the bad men and bad women, if there are such out there, have no use for, one they hate a good deal worse than they do the devil, that man is the one who is going to speak to us. If there were no other reason under the sun for my loving this man, it would be because of the enemies he has made. I want to tell you that no living man can go into the jungle of the beast, as he has done, and not be thoroughly hated by all unclean men and all unclean women. I am rather inclined to believe that no man has any business to call himself a reformer, probably no business to call himself a full-fledged Christian in this twentieth century, if everybody is saying soft and beautiful things about him. "Woe unto you when all men speak well of you."

THE DELINQUENT CHILD

JUDGE BEN B. LINDSEY, Juvenile Court, Denver, Colorado.

I am sure it is a privilege and an honor to come back to Battle Creek—under somewhat different auspices from those that originally brought me here. Yet I am not complaining about those, for I found that sometimes it pays to get sick if you can come to Battle Creek and to Doctor Kellogg. I am sure it is also a privilege to be here at this splendid Conference. I did suffer in not being here through the days of those wonderful discussions, a sample of which we have just heard from my dearly beloved friend, and your friend, Mr. Riis, who was the inspirer of my own young manhood. I remember so well, when writing the story of the "Beast and the Jungle," of getting back the copy from the editor one day and of finding that he had cut out a whole page that I had devoted to Mr. Riis. It told about how I stopped in a drug store one day and picked up a book called, "How the Other Half Lives," and how I began to get interested in these great problems. I complained of the liberty the editor had taken

with my manuscript. He said they weren't publishing the story for the sake of giving me an opportunity to throw bouquets at my friend. But now, my friends, I am not hampered by any editors and I am sure the Chairman will not interfere when I express my deep appreciation to be here under these auspices in the presence of such an audience, upon this platform with two glorious men, who have done so much for this country and for you, and for me—Doctor Kellogg and Jacob Riis. I assure you it is a privilege, and I am also honored, far beyond my deserving, to share with Mr. Riis the honors of this evening in discussing the so-called "Bad Boy." I know Mr. Riis agrees with me, that "there ain't no such thing." I accept the creed of the Hoosier poet who expressed it for us through the lips of a little child:

"I believe all chillun's dood if da's only understood.

Even the bad 'uns, 'pears to me, is just as dood as they can be."

And we have come to find it so.

There is a difference in the two titles, however, assigned us. I am given the more favorable opportunity, perhaps, when I find on this program assigned to me, not the "Bad Boy," but "The Delinquent Child." That possesses a deep meaning and significance, and it is this: It is the concession of the state, it is a declaration by the state, the acceptance by the state, of the creed I have described. The child is not bad, but conditions are bad—things are bad.

That recognition in a state came first in a law passed in April, 1899, in the state of Colorado, and June 1st, 1899, in the state of Illinois. These laws recognized the so-called "bad boy" no longer, but rather the bad things that got him. It was the declaration of the state that it would no longer fight boys or girls, but it would fight bad things, if you please. It was a big step forward, fundamentally, that came from out there in the West to join with that other great reform accepted first in Massachusetts, when its first probation law in 1868 had been passed. It calls upon men and women to help rather than hurt in dealing with those who are stricken with bad things.

And so from that day down to date, out of this great reform spreading over the Middle West and then circling the globe, has come the new influence, the new power, the new force, coming into the lives of men while they are children. It is a force differing from that of violence. Not that the days of the old-time force have passed away, but rather have we come to recognize new forces. How curious it is that it took us so long to wake up to the possibility of the forces of patience, of kindness, of understanding, of sympathy.

And the last is the divinest instrumentality in all the world in the hands of the skilled when it comes to the ills of the human soul. Under the new justice, that recognizes the child as a ward rather than a criminal, the state has come to help and not to hurt, to uplift and not to degrade, to love and not to hate. It is a big step forward in the great struggle for justice, rather than for law, for law was not always justice. Do you think so? Hardly. If we could go back to a proceeding within a century in the Old Bailey Court in the great city of London, we might find before the bar of justice five little boys, all under fourteen years of age. The youngest only twelve, and that boy the chief culprit. We listen to the examination of the officers. "Little boy, you stole a shawl from the house you entered. What did you do with that shawl?" "Took it to the pawn brokers, sir." "What did you do that for?" "To get money, sir." And after the suggestion of Mr. Riis a moment ago, bent upon finding out what the boy did with the money, in this way proceeded: "What did you do with the money?" said the officer. "Went to the Punch and Judy show," said the little boy.

Just like that little boy brought to court the other day for taking the gunny sacks and the cement sacks from the barn to sell to the rag man to get money to go to the moving picture show. Not the best way, surely, to get money to go to the show.

But oh, my friends, what a difference there is in the method employed by the state in handling such cases. The mother of that little boy of twelve came to the Old Bailey to plead with the judge to help save her boy. But the judge, in the formality of the time, explained that under the law—the law, if you please—he was not there to deal with the boy, but rather with the thing he did, and that was, breaking and entering, taking something that did not belong to him, which was an invasion of the sanctity of property. It was a rule that had come down to us through feudalism, attended with all its respect for property rights, with corresponding disregard for human rights. The court had nothing to do with the boy, but rather with the thing he did. It could not help the boy. So there followed the sentence from the bench that each of the little prisoners, all under fourteen years of age, be taken to the Tyburne Prison, and before the rise of the next day's sun that they be hanged by the neck till they were dead, dead, dead, and may God have mercy on their souls. That was not a thousand years ago. It was 1833, on an October day. It was not a lawyer or a judge, but a schoolmaster who thought less of law and more of justice, whose appeal to the Home Secretary wrung an unwilling commutation of that sentence from death or life imprisonment to fifteen years of hard labor—for a little boy of twelve

who took an old shawl! Those of us who have the accounts of the frightful conditions then existing in the prisons may well doubt whether it was a mark of consideration that the sentence was commuted and may have almost wished that they had been consigned to a merciful death, rather than to those hell holes where souls were seared and bodies degraded.

It had been only a short time before when they cut their heads off and put them on the gibbets above London Bridge to terrorize the "wharf rats," as they called the children of that day, into righteousness. But they did not terrorize. Crime increased, and finally down through the years, as pity took the place of vengeance, as understanding took the place of violence, we began to mitigate the penalty.

But we forgot the fundamental thing, that only within a decade or so has been recognized by the state, and that was simply this: The child was the ward of the state. The child indeed was the state and the state was the child. When we saved the child, we simply saved ourselves. Then, my friends, came the first step in the new justice, that brought this child before the bar, not as the real culprit, but rather as one who was the victim of a real culprit and that culprit was rather the state itself—society itself, if you please.

It was not so recognized until within the last ten or fifteen years. A community responsibility for the child was but little considered or tolerated. I found it so in my own experience, from that very first case I used to tell about—or among the first—when the district attorney had asked for five minutes to dispose of a case of burglary, and I looked about to find the burglar, but I saw nothing of the kind. There had been ushered in three little boys. The grouchy officer had said, almost under his breath, "Sit down there. I guess you didn't give us the hot foot that time." And lined up before the bench in the formal fashion of a criminal law as I faced them there, that day, I beheld not men, but boys, twelve to fifteen years of age. These were the burglars. They certainly didn't look it. In the center of the group of three was a little tow-headed, freckle-faced boy all frazzled out at the elbows of his little coat and the knees of his trousers and indeed some other places thereabouts. He dug his fist into his dirty face and began to whimper out excuses. But instead of pleading "not guilty," as he might be expected to do, the little fellow, with a sort of determination and independence that we have since come to love and mark as a good sign, rather than impertinence, said through his tears, "Oh, I ain't no burglary." And I explained in simple terms that burglary was breaking and entering. Then that little boy began his own defense, that became classic,

if not indeed historic, in the annals of our court. He hadn't any lawyer to defend him. He said, "Judge, I live down by the railroad tracks where dese guys live, and they said there was watermelons in those box-cars." I have often said there was not a lawyer at the Denver bar who could have started with a more powerful appeal than that, for it did strike a responsive chord in the bosom of the judge, reminding him of some other days. As I was forcibly recalling that other occasion when I sought to sympathize with the little rascal, without justifying any wrong, of course, he turned to me somewhat suddenly and said, "Jedge, when you was a kid, didn't you ever swipe a watermelon?" And from force of habit or that sort of self-righteousness, perhaps, that protects us sometimes, I did what the lawyers do when justice is not on their side. They have a way of side-stepping the real issue, of resorting to the technicalities of the case. And I said, "You little rascal, it is against the rules of the court to cross-examine the Judge."

And in this Conference on Race Betterment, I want to cross-examine you, in behalf of this prisoner at the bar, right here, for he is a type of nearly one hundred and fifty thousand children hauled up into the courts every year in this country. Do you know what that means? It means nearly two million in a generation of childhood. What can we do about it? You think you are going to decrease it by courts here and there, but courts cannot do it all. They never will, and they ought not to. It is a pity that we have to resort to such an instrumentality. It is better than the old jails, of course, and the criminal court.

But to return a moment to that little boy, and take the lesson from him in the concrete, through his tears. I explained, of course, to that little boy that because the subject of temptation was watermelons, was not any excuse for larceny. But it seemed he had other defenses in reserve. He said, "Judge, when we got down there and got into those box-cars, we didn't find any watermelons." And I said, "Look here, little boy, you found something or you would not be in court." He said, "Do I have to tell?" I said, "Yes, you have to tell." "Well, if I have to tell, it's like this: When we got in there and didn't find no watermelons, Ikey said, 'There is something good in those boxes.' Yes you did, Ikey, you needn't say you didn't! Then we found something that looked like figs. We got out something that looked like something good and we drank a whole bottle full and it was California Fig Syrup, it was." With some indignation at the smiles that broadened and rose into titters and passed around the room, he concluded with great feeling, "And I think we have suffered enough." Well, I said I thought so, too.

That plea was not alone for the gang, but for all boys and girls that have suffered enough, not only from fig syrup in that case, but from other things. I waited for that to sink in—not the fig syrup, but the eloquence. The trouble was the fig syrup was not prescribed in bottle doses and the gang had not stopped to read the directions. You know, Mr. Riis, that is one of the faults and failings of the gang. It is a thoughtless institution, without any direction except that furnished by the policeman who was there that day to condemn. He was the old type of policeman, happily passing away.

I believe a policeman, as Mr. Riis has shown us, could and should be a social factor, as he is coming more and more to be. I have known a whole neighborhood to be changed by changing the policeman. There was a bad gang there and the whole thing was changed. We didn't change the gang. We changed the policeman. That was all. So much for the power of personality, if you please—the soul-to-soul, and heart-to-heart, dealing with human beings, rather than with the mere things they do. A policeman of the old type glared at the little boy as if he wanted to eat him up, and the boy glared at him as if he wanted to throw a brick. One policeman said to me, "He was stealing lumber from the builders' pile where they were putting up a warehouse, and every time I come in sight, he sees me coming, and yells, 'Jigger de bull,' and everybody runs and I can't catch 'em." I asked the district attorney what "jigger" meant. He said it had a familiar sound of a bug he knew down in Missouri when he was a boy. Then I learned one of the first of the many lessons I had to learn from the child; for we have much to learn from the child, who teaches us unconsciously, perhaps, but nevertheless effectively. I asked the boy what jigger was, and he said, "That's the guy that watches for de cop and snitches to de gang." Don't forget, that was a peculiar duty to the gang—not to the policeman, but to the gang, at the approach of danger to give the signal and everybody scoot. He said, "If you told on a boy, you snitched on him." That was against their law. It was quite as real as ours. Indeed, I found that our law, "Thou shalt not steal," had a poor chance with the first commandment of the gang. "Thou shalt not snitch. You will get your face smashed if you do."

Now, my friends, what did we face here? We faced the case of all society. You could not try it in five minutes. Don't forget that. No more than the doctor could protect the community against the plague just by treating each patient stricken down with a fever. He might better go beyond the hospital even if it led him to the swamp lands beyond the city, to find the condition that affects all the people. So our thought is for all children, for this boy was not

much different from others. His environment was different. Mr. Riis has taught us that perhaps better than any other man in this country, in his battle against the slum and the fight for the playground. One of the early cases that came to my court was a little gang of bedraggled, dripping boys that a policeman had dragged out of the only "swimming-pool" in town, down by the railroad track. Some prudish people couldn't stand it to see little boys in that unfortunate state. As I gazed out of the court house windows I saw two big fountains, gurgling up their artificial showers. Sporting down below were little boys of brass and iron clad in a coat of paint. It was shocking, but did not shock any prudish people. I found on investigation it cost us several thousand dollars a summer to have those fountains, and I said to myself, if this town can pay several thousand dollars a summer for artificial fountains for boys of brass and iron, it can pay something for boys of flesh and blood. So the judgment of the court, in that case, was not that they be sent to jail. I said, "Kids, you better go swimming in the fountain since there is no swimming-pool." You know sometimes a community needs a jar and a jolt, to be waked up. Mr. Riis gave it to them in New York and he taught some of us to do it in some other cities. The police did not think I meant it. When they brought the bedraggled, dripping little kids into court again, expecting we would send them to jail, I smiled into the faces of the kids and the policemen, and the verdict of the court was, "Kids, back to the fountain." The smile on the face of the kids was an interesting contrast to the frown that covered the visage of the officer, who did not understand. But in time—when the community woke up to the fact that it was not the child that ought to be before the bar of justice, but the community—we had seven public baths in the park and one great big, splendid public bath in the town, and we didn't need to jail any more boys for that sort of thing.

A little boy had been in jail ten days for taking lumber. I visited his back yard. There I saw the lumber converted into an elevated railroad. He pointed it out enthusiastically to me. The judge was now his friend and not an avenger. And there was a soap box on wheels, the first contribution to the rolling stock of this remarkable railroad. But the unfortunate thing about it all was that the soap box was stolen from the corner grocery and the lumber from the builders' pile, still it was not the first railroad that had been stolen! The remarkable thing about it was that the culprit had been in jail. Did you ever hear of a case like that? I never had. If you had the patience to pursue with me "the beast through the jungle," you may recall that I had to try the political

gang for stealing a railroad, a real railroad, and before we finished that case, the man who had had the most to do with stealing that railroad came a good deal nearer getting to the Senate of the United States than he did in jail. We had a great deal of difficulty in keeping him out of the Senate.

But, my friends, we went beyond the court down to the railroad track, out into the streets, and alleys, and we found that the only place to play was there where the wheels went round and something was doing, doing all the time. But when the community felt the jar and the jolt, and waked up on the question of the public playground, that sort of lawlessness decreased more than one-half in six months. And it was so much better and cheaper than that jail we had used as our remedy for delinquency. We are waking up, my friends. With this fact has come the "Boy Scouts" and the boy clubs, the Y. M. C. A. and don't forget the Camp Fire girls, as I see Brother Gulick, their director, sitting here. I don't say much about the girls and we haven't much on the program about them, but it is not because we want to neglect the girls, but because they are so much better than the boys. One boy said to me once, "How could they get in trouble? If they throwed a rock, they couldn't hit anything anyhow." And I know a very dear little boy whose sister had violated the law of the gang—or rather did not know what it meant and had told on him. He was very indignant, and I said, "Jimmy, what do you think of girls?" "Oh," he said, "they were just born as a joke on the boys." And there was that other little girl whom I spoke to once. I said, "Jennie, how do you make it out that we have about twenty little boys in court to one little girl." With that feminine determination not to be outdone even by the boys in demanding suffrage and a few other things these days, she said, "That's nothin'; one bad girl is worse than twenty bad kids any day." However that may be, we are now getting deep into this case. It leads into what is sometimes called the sociology of this case, to the home and the parents in the home or that ought to be there. The mother of one of our little prisoners worked all day. The father was on a bed of pain right in the last stages of lead poisoning, that came from sixteen years of work in the mills amid the poisonous fumes and gases of a great industry. And he was only one of a hundred thousand fathers stricken down by occupational disease every year in this country. Now how are you going to prevent delinquency unless you put a father and a mother in the home and keep them there. They are the natural judges, if you please, to look after the child. How are you going to reduce delinquency when six hundred and fifty little children were made

orphans by explosions in coal mines in one or two counties in our state within four years. Sixteen thousand children made orphans in a few years in three or four states in this nation from explosions in coal mines, a large part of which could have been avoided, according to the government reports, if they had used the right kind of safety appliances. You can't get rid of delinquency unless you put the child in the bosom of the home and the father and mother there to look after him. Don't forget that. That means that Denver had to get into politics, because we could not change conditions unless we could change laws, and we couldn't change laws unless we got into politics. Then you might go to a home and find no father there at all. In one home, the man was a deserter from wife and child. There are a hundred and fifty thousand deserters every year—more than from any army in times of war, more dangerous than deserters in times of war. But here is the story of one of the thousands of suffering mothers every year in this country. The father had gone to the gambling den, the dive, the brothel. We pray, "Lead us not into temptation, but deliver us from evil," and then do nothing, if you please, to answer our own prayers. Men are beset by temptation on every hand. Husbands, fathers and sons go down to ruin every year, that a certain type of business, if you please, may flourish. And then those of us who hold up our hands and cry against the evils that threaten to undermine the American home are rebuked for interfering with business and knocking the town, if you please.

The lesson from the child is that it is all children up, all children down, and I am my brother's keeper. No home is safe unless all homes are safe, in the final analysis. We owe a duty to one another. We find that in the sociology of the case. It is a long story that I cannot follow now. But the fight for industrial, social and economic justice in this country is a fight for the child. Don't forget that. There is no child problem that is not a parent problem. Don't forget that. And there isn't any parent problem that is not a social, economic and industrial problem. Don't forget that.

Then there is the psychology of the case. We are dealing with human souls. We are here no longer to save the old shawl. We are not here to save the gunny sacks except as a secondary purpose of our work. We are here to save the boy. But how long it took us to put the boy above the gunny sack! Hundreds of years! That means that we must deal with him and understand him. Now, friends, we are looking into his soul. No matter how calloused or covered up it may be by bad environment,—much opportunity for evil and none for good,—down in every human soul we

know there is the image of God, as I heard Mr. Riis say once, if we only know how to bring it out. That becomes one of our great duties in the home, in the school, in the church. These are the great institutions upon which our civilization must depend; these are the foundation stones upon which it all rests. We in homes and schools owe a duty to the citizenship of this country, by discharging well their functions toward the childhood of the nation. That means that we must know how to put our lessons over.

Sometimes the appeal comes unconsciously from the soul of the child. I asked a little boy, "You will always do right?" I was speaking to a group of petty pilferers about my table. "Yes," he said, "I will do right." I said, "Why will you do right?" He said, "Oh, de cop will get me." "Yes, he will if you keep it up," I said. The next little boy, after struggling and fighting with himself, finally gave the same answer in a different way. "I would get a licking. I got two." "Yes, I suppose you deserved them," I said, "but there is a better reason for doing right." The next boy said, "I will get in jail." "But there is a better reason than that." As I appealed to the next little boy, who was a tow-headed, freckle-faced little fellow, I said, "What is it?" He said, "I would go to hell." Well, my friends, we must know how to teach these children to do right because it is right, and not because they will get in jail if they don't do right. You can't trust any citizen who has been reared with the artificial restraints ever above his head; in the home it is the nag and the lash, and from the bench of the court, the bars and stripes. Not that these things are not necessary, as one poison is an antidote for another poison, and therefore, poisons are necessary, but there is another restraint and that is the restraint that is self-imposed, that comes through the human heart, through the divine speaking in the soul of the Small Voice to the conscience and commanding man to stand up in the face of temptation and difficulties and do right because it is right; to be willing to suffer for the right. When we get that kind of citizenship, the days of graft, the days of the shame of cities, will then pass away and there will be less need for the artificial restraint, for the boy who does not learn his lesson right, any more than did little Jimmie whom I used to tell about. I saw him a few days after he attended Sunday-school and I said, "Jimmie, what do you think of Sunday-school?" "Oh," he said, "it's de place where all de little kids go and dey gives up a penny and don't get nothin' back." I said, "You little rascal, you learn things there that you ought to know." "Yes," he said, "learned about de angels that have wings just like de chickens but those guys didn't learn me

whether they laid eggs or not." It may not have been altogether the fault of little Jimmie or the Sunday-school, but little Jimmie was like some men. The lesson had fallen on deaf ears. He saved his precious penny for the sake of the candy he could get at the corner grocery. He had no conception yet of those values that concern the human soul, the spiritual values. We must know how to endow men while they are children with the spiritual values. They are not to be measured in dollars and cents or material things. Here is where we sometimes fail. The child grows up to be that man in the world of business who, because he is more intelligent, is simply more dangerous; who is a practical man, and through his injustice robs thousands and thousands of people—the big sinner in society, the big crook in society, who is too sharp to get caught, gets away with the goods and goes unwhipped of justice. Let us learn how to make the school and church most effective so as to give our children their greatest heritage, that sort of equipment that means moral and industrial efficiency, so that in the future we will have citizens who will last, not only over night, but—as I used to say to the boy that I sent to the reform school alone—a week, a month, a year, forever. So much for the psychology of this case. We in the courts are merely trying to help the home, the school and the church; for every little child that goes astray means simply there has been a failure somewhere along the line, not altogether with the Sunday-school or the home perhaps, or the school, but because of certain conditions in society that we permit to flourish and exist and make no effort to cure.

Then there is the physiology of the case. Of this I might speak just a few words in closing. It was never better illustrated than by a certain little "Mickey," a little Irishman, who came to my court years ago after his trouble with the police. He was a boy who brought the witnesses up before the Governor and the Legislative Committee to tell the evils of the jails and the brutalities that have been visited upon the youth in those days of struggle for the Detention Home School to supplant the jail for children. Mickey came in a few days after a successful fight to say, "Jedge, didn't I help yer get that law through?" I said, "Yes, you did, Mickey. We could not have gotten it through without your help." "Well," he said, "where do I come in?" For a moment I couldn't understand just what he meant until he explained. He said, "Jedge, do you know big Peterson?" I said, "Yes, I know Peterson." Peterson was a big policeman who, when he couldn't catch the right boy, arrested Mickey on general principles. He said, "Jedge, that law only keeps kids out of jail under fourteen years old." He looked at me quizzically

and said, "Did I ever tell you I was fifteen?" I said, "Yes, you did, Mickey, come to think of it." He said, "Can you do me another favor? Can you forget that?" He added, "If this legislature can keep kids out of jail under fourteen years old, it can set my age back two years and I am thirteen from now on." And he said, "Jedge, the law don't help me a bit until this trouble blows over. I think I will join the navy." I said, "You better see the recruiting officer." He said, "I've been down to see that guy and he said, 'Say, kid, go eat some more.' " That flippant remark of the recruiting officer had more truth than flippancy in it.

This brings us to the final head under which I like to discuss the problem of delinquency and to which we must come if we are going to save the child. Doctor Kellogg has told us and he is telling the people of this country that what a man is depends largely upon what he eats. He has been telling us that and other men have been telling us that. We in the courts are not going to decrease delinquency permanently unless we remember the lessons of this Conference. What the child is, depends upon how well he is nourished,—what he eats,—how well he is clothed and what kind of parents he has and how free they are from diseases before he comes into this world. That is the physiology of the case. We cannot neglect that.

So, my friends, let me at this Conference on Race Betterment impress upon you as best I can, after more than fifteen years in a children's court in a city of a quarter of a million people and some experience in the children's courts of every city in this nation, that we cannot save this child that comes to the court unless we save all the children that do not come to court. They are all mixed up together in the same problem. They are all our children. Don't forget that. Their salvation depends upon how well we solve their problems under the sociology of the case, the psychology of the case and the physiology of the case. The sociology of the case means the great social, industrial and economic problems that concern the home and the parent in the home. The psychology of the case means the everlasting soul, that divine instrument, if you please, upon which we are called to play. It was a master teacher who said that skill in handling marble is as nothing compared to the skill in handling men, and the best time to handle men surely is in childhood and youth, when character is plastic and can be molded as clay in the potter's hand. We are putting our prisons in charge of skilled men and women. My friend, Tom Tynan, at the head of our Colorado penitentiary, said four years ago, "Lindsey, you have been sending hundreds of boys to these prisons alone without officers and without handcuffs, and never lost a prisoner. Why can't we do some-

thing by trusting men?" We said we believed it could be done. Men are only children grown up! And so, my friends, when a man like Tom Tynan puts hundreds of convicts upon the road camps in our state without the emblems of degradation or the restraint of violence, he brings out the godlike image rather than that of hell itself. Why, I am told he does not even have to have a firearm in camp and he has less escapes than he had in the old days. He came to see me one day and said, "Lindsey, we have had to get a gun in the road camp." I said, "What on earth has happened?" "Oh," he said, "the infernal natives are robbing the convicts and we had to get a gun to keep them off."

After all in this world there are only people. There are the eternal currents of good and evil. Our work on earth is to fight evil and not men and to encourage good in men.

THE DEPENDENT CHILD

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All children are naturally dependent upon their parents and guardians, for it is characteristic of the human species that its young are born more helpless and remain dependent longer than the young of any other species. When, however, parents die or try to dispossess themselves of their children, and to make others responsible for their physical and moral welfare, the children, if accepted as public or private charges, become thereby what is technically known as "dependent children." The several states treat dependent children in various ways. Some place them in institutions, others send them to foster homes and asylums, while still others have a system of home relief or so-called "pensions for dependent mothers." Each system is criticized by thoughtful observers, for it is said that the indoor method of relief "institutionalizes the children;" that in the placing out to work "undesirable children are sometimes transferred in large numbers to communities where they later become social burdens;" and that the "pension" system, unless wisely applied, "leads to corruption and the pauperization of families."

The recognized defects of child-caring work warrant us in analyzing its results. Both as individuals and as a nation we should give serious study to this problem, for it is one of the largest that confronts public and private charity today; it involves the investment of millions of dollars annually, and decides the destinies of thousands of

the states' future citizens. Charities for children are always popular, for no philanthropic theme appeals so strongly to the hearts and pocketbooks of right-minded persons as the promotion of the happiness and welfare of little children. But the impulse to give liberally in response to appeals should not be followed without first weighing the good and the harm that may result therefrom. The efficacy of methods of relief should not be measured in terms of so much food and clothing, but broadly in those of child, race and social welfare. The problem is therefore to know what conditions make it necessary for children to be supported outside their homes, what kind of children are becoming dependent, what effect their previous life had upon them, and also the influence of the institutional or other new environment provided. We should know whether our children, like Romulus and Remus, the first dependent Roman children, grow up to be kings and rulers, if not of others, at least of their own hearts, or whether they tend to swell the ranks of unskilled labor, or even of vagrancy and vice.

A special study along this line is in progress in New York State and while it is far from completed, some of the indications are significant. First, as to the causes of dependency, not more than half are legitimate causes, such as the illness or death of one or both parents, and even some of these catastrophies might have been averted, as, for example, deaths due to industrial accidents and dissipation, and illness from communicable disease. The other causes of dependence are desertion of parents, improper guardianship, destitution, illegitimacy and the intemperance of parents. The desertion of parents amounts to twenty-five per cent of the causes so far studied, and reflects a weak phase of family life. This unfortunate condition is by no means confined to the poor, for certain boarding schools patronized by the rich are said to have as large a percentage of children who are sent away from their homes because of marital troubles and separations, as occur among the class of dependent children. One means to lessen the amount of child dependency and misery would be to strengthen home life in America and exalt its sanctity.

The children proposed for commitment should also be studied and compared with other children, for if we are to care for the children of others, we must know what manner of children they are, before we can wisely decide on the best method of training them. Our studies in New York State indicate that only one-half of the dependent children we have examined and tested mentally are up to normal standard. More than twenty-five per cent are a year retarded, nine per cent two years retarded, eight per cent three years retarded, and seven per

cent more than three years retarded. Most of this seven per cent group are feeble-minded, although they are found in an institution which intends to receive only normal children. This is a rather bad showing considering that we are speaking of one of the best groups of dependent children, for this paper does not deal at all with the large quota of delinquent and defective children. It would seem that the dependent child is not on the average a satisfactory child, and that it is desirable racially to have a better breed of children than he represents.

We pass now to a study of the effect upon the parent and his child of the acceptance of that child as a public or private charge. Supposing the parent has neglected his child and the public assumes its care, society seems thereby to side in with the parent and say: "Why, yes, you may neglect your child altogether. We will support it. Spend all your money on yourself." Or even if the parent is required to pay a weekly stipend, it is not a wholesome thing to relieve him from moral responsibility for his child's upbringing. If, however, the parent is good but needy, the breaking up of the home, which has frequently been advised, is a serious matter, for the effort to keep a family together acts as a moral tonic on the parent, whereas nothing in the world will recompense a child for the loss of his mother's love. A few more clothes or a little more to eat will not requite him.

We must admit that some parents are intemperate, cross, unwise, neglectful and vicious. In these cases the removal of one group of children probably means that others will be born, and this shows that the removal of children from the home does not really solve the problem, but only aggravates it. As a temporary expedient the child is snatched as a brand from the burning, but radical social measures are needed to prevent such vicious homes.

Another type of home is poor and ignorant, but not vicious. Oftentimes social workers, born to higher social development, cannot understand these homes of retarded civilization which are found here and there, as for example the Jackson-Whites within thirty miles of New York City, and exclaim: "This is too bad, it must not continue." But one of the first things a eugenics investigator comes to realize is that in this nation which claims to be so advanced and civilized, there are nevertheless communities which are still in the age of barbarism. Their food, raiment, tools, moral ideas and general knowledge are those of barbarians. If this condition existed only in a few families, we might perhaps hold that these families should be broken up. But there are thousands of such families, mostly healthy, contented with

their lot, doing little harm except petty thieving, who live out their lives in some mountain retreat or secluded valley, making baskets, living on cornmeal and pork, inured to cold and scanty clothing. It would seem to be a sounder policy to bring the school and the church, social centers and a better paying industry to these people, than to place them forcibly in an altogether different environment to which they are not yet adapted.

It will be no easy task to improve the race to the point where there will be few or no dependent children, but the elimination of the dependent child will be one of the best indices of superiority in our national stock and in our civilization. This country of ours is big enough and rich enough so that every family ought to find room enough to live, and be sure of steady employment at a living wage, so that the little home groups can be kept together, and the parents can see the reward of their hard toil and faithfulness in the vigor and virtue of their children. A child, more than one dreams, forms his whole philosophy of life and the universe before he is six or seven years old. Who feels more trusting and confident of the Heavenly Father's love than the little child chanting his evening prayer at his mother's knee? His faith in God is built by analogy on his faith in this mother's love. Beneficent home life is a national institution which must be sacredly preserved. Society should take measures to prevent the grinding poverty and discords which wreck some homes, and thereby create a better parenthood and neighborhood life, so that the problem of the dependent child may be eliminated as far as possible. American civilization must be built on sound home life, on devotion of parents to their offspring, on respect of children for their parents, and finally on the protection of the home by philanthropic agencies and by the state itself.

EDUCATION FOR PARENTHOOD

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Without exception, all the vitally important papers presented so far at this Conference have borne directly or indirectly upon education for parenthood. Every evil discussed, every remedy suggested, should be known to the men and women who would do their duty to society as parents. But those of us who are engaged in public health educational work, those of us who try to leaven life in our big cities, our towns, even our country districts, with what might be termed popular knowledge on sanitation and hygiene, know

that more simple means must be taken to reach the average man and woman, the average parental conscience.

The mother or father who will pass over sensational headlines in the daily papers dealing with problems of eugenics and euthenics, regarding such material as thought for scientific minds only, will drink in slowly, but fully, less spectacular ideas brought to their attention through the medium of their own children, or, what we might better term parental pride. The man who does not know his child, naturally thinks it fit. He finds that it is unfit, abnormal, subnormal, only when he is forced to compare it with the children of other men. He does not think of himself as an unfit parent until he realizes that he has brought forth offspring physically and mentally unfit to stand comparison with the children of his neighbors.

The average man does not pay much attention to the children of his neighbors, whether they be better or worse than his own. He does not go to public gatherings where he will hear talks on life, hygiene, parenthood. Nevertheless, he has a certain instinctive pride in the child which he has brought into the world. For that reason, if he hears of what is commonly known as a "baby show," he is not averse to having his child washed, curled and beruffled, and taken by his wife to be compared with the children of his neighbor. If the child wins a prize at the baby show, the father is properly puffed up. If the baby fails to win a prize, he has the ready excuse—it was merely a matter of beauty, of dimples, of influence, of prejudice, on the part of the judges, altogether a matter of opinion. He does not take the decision very seriously. But the fact remains that he did want to know how his child stood by comparison with others.

Upon this instinct, upon this very primitive method of reaching the unthinking parent, there has been founded a movement which promises to do a great deal toward the betterment of the human race. This movement has been worked out in various forms in different parts of the country, but it is most commonly known now as the Better Babies Campaign.

During the past year at least one hundred thousand babies have been examined for physical and mental development, as part of this campaign for race betterment. The parents of these babies have been taught that the unfit child is not a visitation of Providence, but the natural result of ignorance or sin. They have also learned that in this day of scientific care of children, practically every baby can be made a better baby if properly and intelligently brought up. Tens of thousands of these parents have had their first lesson in child hygiene, their first instruction in the important branch of

medical science known as infant feeding. There are one hundred thousand better babies in America today because of this instruction received by parents. More important still, one hundred thousand babies have been started right.

The first step has been taken in teaching them respect for their bodies. With each successive year these children will learn more about their bodies, the care of the body, the functions, and the right use of the functions, sex hygiene and sex relations, on a clean knowledge of which the greatness of this nation will be founded. The work which these awakened parents have begun will be carried on by the teachers in the schools, by social workers in settlement houses, in welfare clubs and in social centers.

As Medical Director of the Better Babies Bureau of the *Woman's Home Companion*, it is my privilege to tell something of this work, how it has been promoted and placed upon a solid foundation by those who believe it a vital factor in the betterment of family life in America.

The scheme of the Better Babies Contest is extremely simple. Babies are scored by physicians for physical and mental development, and a dozen or more clear questions, printed in connection with these results, show what influence breeding and care have had on the child's condition. The mental tests are the Simon-Binet tests. The weight and measurements are taken and then compared with standards furnished by authorities in Europe and America. The physical examination is made according to schedule furnished by pediatricists and men who have had long experience in examining children at clinics and dispensaries.

The person least interested is the child examined, but parents are aroused, not only to the condition in which the child is found, but to the realization of the wrong they have done society and the child, in a union which results in subnormal or abnormal offspring, the propagation of the unfit. In this way the Better Babies Contest is working in its correlative features, talks by physical experts, diagrams and literature, toward Education for Parenthood.

In the Better Babies Movement, the *Woman's Home Companion* does not lay claim to originality. Before the Better Babies Bureau was formed, a dozen agencies at different points of the country had attempted, in rather scattered fashion, to conduct the work. The editors of the magazine do claim, however, that by giving proper and dignified publicity to the plan through its pages, which reach over a million homes every month, it has accomplished in six months the work which the race betterment organizations, without a mouthpiece, would have taken years to accomplish. It has assisted social workers

all over the country to start these contests and to reach parents by this very simple method of education in hygiene and supplying, without cost, the literature needed for the contests, and encouraging contests by donations of medals, certificates, and cash awards.

The growth of the Better Babies Bureau has been one of the marvels of the publication world. It was organized in March, 1913, to supply the score cards, literature about contests, and to answer queries from contest managers, usually officials of state and county fairs. Within a few months the fair officials made up but a small part of the men and women interested in this movement for race betterment. Club women and public-spirited citizens wanted to know how to hold a Better Babies Contest. Physicians asked for information about judging and scoring of babies. Mothers desired instruction in the care and feeding of their babies. "How can I bring my baby up to the standard of a prize winner?" was a common question. Three-fourths of the mail proves that the writers have received no education for parenthood.

At last, the public recognizes—what educators have known for a long time—that the subject of parenthood should be made one of the vital subjects in a young man's and a young woman's preparation for life. You will notice that I do not say motherhood, important as that is, but parenthood, which includes good motherhood and good fatherhood. We are inclined, perhaps, to lay too much stress on the education for motherhood, forgetting that a perfect child must have a good father as well as a good mother.

It is a sorry state of affairs when a great public school system entirely ignores, or overlooks, education for parenthood. Progressive educators and a few parents have recognized this. But between our great political school boards, who know little and care less about eugenics and euthenics, and the great mass of American citizens, who are indifferent, those who know the crying need of education for parenthood are sometimes discouraged at the slow progress of introducing this and allied subjects into our great public school curriculum.

The Better Babies Contests are filling in this great gap in a wonderful way. We cannot say to parents, "You are not a good mother and father," or "You could be a better mother and father." They would resent this, and justly, too, but we can reach their hearts and their pride through their babies. When fond parents bring their babies to the contest to be scored, love casts a softening veil over infantile defects. They believe that their particular baby will most certainly take all the medals and the certificates in sight. When a doctor points out baby defects which they did not know existed.

their pride is touched. They are alive immediately to the necessity of knowledge that they may remedy these defects. The parent is now ready for a course of education for better parenthood. He will come of his own free will to the educators for this knowledge of which he feels a real and crying need.

Every contest is unlike every other contest. Each has its own little tragedies and its humorous side. I learn much from each contest I am privileged to attend. One Western mother of a prize winner told us a very interesting story. From childhood she herself had been delicate in health, and she knew through bitter experience the humiliation and sorrow of the child who cannot play like other children. She resolved that her baby should be spared this suffering if it lay within her power. From the very inception of this new little life, she placed herself under the intelligent direction of her doctor. She exercised regularly, followed the proper diet, kept herself free from worry and in the best possible condition. At birth her child was a normal child. The same intelligent care has been given him every day of his life. As a result this one-time invalid is not only the proud mother of a prize-winning baby, but her own health is established. It is more than a coincidence that our prize babies are in almost every instance babies who have been fed regularly, who have had plenty of fresh air and sleep, and whose mothers have followed, to the best of their ability, the schedule for the scientific care of babies laid down by leading pediatricists.

In contrast to this baby is one scored at a contest in a great Western stock-raising state. The father of this baby was a prominent and wealthy ranch owner and breeder of fine stock. He had made the trip to the state fair to enter his blooded stock and had won many first ribbons. Learning that there was a baby contest at the fair grounds, he decided to enter his little son. A few days later the physicians were engaged in re-examining the highest scoring babies, when the wife of the man whose stock was taking prizes at the stock show approached the doctors nervously: "I did not get any card to bring my baby back for re-examination, but I thought that as we were strangers here, it might have gone astray, so we just brought our baby down to see if it was not wanted for this final examination." It had never occurred to these parents that their child might not have come up to the standard required for the re-examination. The doctor, thinking perhaps the card had gone astray, ran through the score cards of the previous examination until she found written in stern figures the tale of this baby's failure to qualify. Flabby flesh, slightly bowed legs and inability to concentrate, were among the points, indicating that the mother was overworked and

the baby undernourished. A dull flush overspread the man's face. "Come on," he said, "we are going to see the best doctor right now and find out what's wrong." The family doctor in his home town might have suggested undernourishment and been laughed at. The mother might have poured her worries into unhearing ears. But when a group of judges, expert authorities, scored his child far below his live stock, this father received a lesson which struck home. He learned that straight legs are as important in boys as in mules, and that ability to concentrate is a sign of high breeding in humans as well as in horses. Let us hope that this father and mother will carry the gospel of better babies back to their Wyoming home.

At these contests even the brief conferences between mothers and doctors develop a surprising change in the mental attitude of the former. For the first time they seem to recognize the scientific value of the contest. Maternal pride and confidence give way to maternal anxiety. Some of the women who enter the contest smiling and confident and, perhaps, feeling just a trifle superior, at the close of the contest turn to the doctor nervously, "Even if my baby doesn't win a prize, you'll let me have his score card, won't you? I want to take him to our doctor right away and, if there is anything wrong, I want to know how to make him better." So another mother is started on the road toward liberal education in parenthood.

I hope that most of you have seen some of the examinations conducted here at the Battle Creek contest. One of my pleasantest duties at this Conference has been to assist in the final re-scoring of the baby candidates for the medals. Nearly six hundred children, five years and under, of Battle Creek and vicinity, had been examined by the local doctors. A number of the highest scoring children in each class were brought back for the final contest. An interesting incident was that of a little boy scored by one of the Sanitarium doctors and given a total of 940 points out of the possible 1,000, or 94 per cent. Taking a fresh score card, another physician and I scored this boy again. When our score was totaled it was found that we had also given him 940 points. This proves that scoring babies can be made accurate and scientific.

The indirect results of the Better Babies contest are perhaps greater than the direct results. Parents who have had their children in 1913 contests will not need to be urged to enter their babies in the 1914 contest. Thousands of visitors will carry the news of Better Babies to every part of the country. Women and men like to be in style. There is every indication that parenthood is going to be more fashionable once again.

There is a commonly accepted belief that the marriage ring be-

stows the gift for parenthood magically—works a miracle of understanding in the newly wedded couple. The divorce court, the juvenile court, the reformatories, the homes for defective children, thoroughly disprove this theory. We train our citizens for every other worth-while profession. Is it not the most glaring inconsistency to fail to train them for the most important profession of all—Parenthood?

There has been great agitation over the question of introducing certain phases of education for parenthood into the public schools. Most of this has been due to misrepresentation and ignorance of methods to be used. It is better if certain phases can be taught in the home, better for the child and better for the parents, but these subjects are not taught in the homes, and very few parents possess the requisite scientific knowledge to teach them successfully. If more parents will attend the lectures planned by those having this phase of the work in charge, much of the now existing prejudice will be overcome.

To have a home, with all that word implies, we must have a mother and a father endowed with talent by their Creator and trained in the use of their talents by their educators. We must have a certain economic independence, or, in other words, our legislators must secure to a great army of American citizens, men toiling with hand and brain, an equitable share of the product of their labor, in order that they may be able to support homes and children. And last, and most important, we must have that love and harmony between man and wife without which truly healthy and beautiful children are not possible.

In the past, education for parenthood has been a system of don't's, repression, negation. Ignorance, and morbidity, and crime have been the natural outcome of these pernicious teachings. The new education for parenthood will be characterized by its scientific foundation, its clarity, its sacredness, its loveliness, and its holiness. This is the work to which we have set our hand. If we begin with Better Babies, in a few years there will be Better Boys and Girls, Better Men and Women—BETTER PARENTS.

In conclusion, I should like to present a few concise thoughts for parents:

There is no man so manly as the man with the tender heart of a woman; there is no woman so womanly as a woman with the courage of a man. We prate about the "eternal womanly," when we mean only the expedient feminine.

A man cannot sow his wild oats alone. He must sow them at the expense of some other mother's carefully nurtured daughter.

As a stream cannot rise above its source, so a nation cannot rise above the potential greatness of its mothers.

The mother who risks her life to produce a child, surely does as great service for the state as the man who kills another mother's son in defense of it, and she ought to be so recognized, and pensioned if in need.

Only a mother knows the worth of a man. She alone knows what it costs to produce a man.

BETTER BABIES

ROBBINS GILMAN, Head Worker University Settlement Society, New York, N. Y.

Better babies are but a means to an end. That end is the object for which we are gathered here—race betterment. However, race betterment is not necessarily synonymous with better babies.

The remarkably widespread and apparently intelligent grasp of the underlying ideas of the science of Eugenics augurs well for the future of our race. The seed of the eugenic ideal, which was sown so broadcast by the First International Eugenics Congress held in London a year ago last summer, seems to have fallen on fertile soil where it has germinated and already brought forth good fruit. When a popular interest can be aroused in taking better care of ourselves for the sake of bringing into this world better children, or in so taking care of our children that they may bring forth better children, the dim dawn of a better civilization may truly be said to have broken. There are unmistakable signs of an ever-deepening popular interest in race culture, and that not by scientists alone but by fathers and mothers, both actual and prospective. This interest manifests itself in various ways, and while all of its manifestations may not have been the result of conscious efforts toward the fulfillment of the eugenic ideal, nevertheless they represent the first glow of color in the dim dawn. One of the most practical, if not scientific, phases of popular interest in the underlying principles of Eugenics is the many Baby Health Contests that are being held throughout our broad land today; they tend to lay stress on race culture, which is wholesome.

The ordinary "Better Babies" Contest brings to the mind a composite idea made up of a very few elements—healthy babies, competition and prizes. There are other ideas, fundamental, important, and consequently enduring,—which I wish to bring out briefly in this paper,—that resulted from a contest held at the University Settle-

ment last May in the heart of the most congested section of New York City.

Concisely stated they are:

- (1) The relative unimportance of the healthy babies in a contest.
- (2) The need of offering two prizes in addition to those for perfect health.
- (3) The inadequacy of a national conference.

At the expense of seeming to make a paradoxical statement, I wish to say that I think the healthy babies, and especially the prize winners, in a contest are the least important part of the contest. This is so simply because health, whether in baby or adult, represents a satisfactory present state or condition, and unhealth or ill health calls for attention. Therefore the babies which need no immediate care should not absorb our time and attention while there are sick or unwell babies to be looked after. One of the most important phases, therefore, of a Baby Health Contest is the detecting of unhealthy babies, which because of their unhealth need care and proper nursing for the purpose of fitting them for the race of life—to start them off with the least possible handicap. After a careful record has been made of the names and addresses of the imperfect babies entered in a contest, and their homes have been visited, and further and more careful examinations have been made, they should then become the special care of the municipality or private baby welfare organization, and the first great result of your contest has been achieved. Without any lengthy clarification, you can easily see that without having had the contest, without having offered your prizes, you would no doubt have never found that this need for the care of these below-par babies existed.

Another important phase of a contest is its educational side; I mean that side of it which gets people to talking about, to thinking about, and reading about better babies. One of New York's most conservative newspapers headed a column article "Babies All the Rage" during our contest last spring. When the press of the cosmopolitan city of New York carry for a week, as most important stuff, something,—not a murder, nor a divorce, nor a kidnapping, nor the mysterious disappearance of a prominent person,—that subject has become of unusual interest to the reading public. Mothers, old and young, and even prospective parents, were interested in babies last May in New York. Motherhood seemed to take on a more important aspect. The effect of arousing so much talk was most wholesome and I believe could never have been produced except by holding a Contest, by offering prizes. While competition was keen, and the spirit of rivalry rife, and the desire to win eager, yet these paled

into insignificance beside the fact that groups of mothers gathered here and there in the crowded East Side of New York and wanted to know, "Was this good for the baby," or "I wonder should I do this," or "Don't do that, it ain't good for him," or "Don't face him to the sun, it'll hurt his eyes," or best of all, "Have you seen the nurse at the Milk Station about it?"

Now turning to the babies in the contest, those eligible for the prizes,—the healthy ones,—I ask this question, honestly, What does it amount to to find a perfect baby? Of what great importance *per se*? If the contest is to consist in finding a physically fit baby, to single out one from 100, or 200, or even 1,000, and to give to its parents the proud distinction of bearing such a prodigy, and incidentally arousing bad blood in the parents of the baby who came so near to winning but didn't, then I say let us have very few contests. As a social worker, I am more interested in the possibility of an imperfect baby growing up into fairly fit physical manhood or womanhood than in searching out a physically perfect baby who may not so grow up, but above all am I interested in having a perfect or imperfect baby grow up into moral and spiritual fitness for parenthood and citizenship. Temperamental endowment, or better, "emotional control," to use Doctor Davenport's words, is, from the social standpoint, from the standpoint of the society of tomorrow, much more important than physical health, important as that most certainly is.

To make a Baby Health Contest of more than passing importance it therefore should be followed by two distinct additional examinations, one into the environmental conditions surrounding each baby, and another into—as far as we are with our present knowledge able to gauge it—the possible inheritance that the baby is to fall heir to.

In other words, I think that each contest should offer three prizes: one, as at present, to the most perfect physical baby; another to that baby whose parents have sought to keep and have kept his environment best, and the other—and possibly the most important—to the best selected parental union, to the baby which has the best parents.

In examining into the environmental conditions of babies entered in a contest, we may find very direct causes why a certain baby, or a number of babies, did not win or stood no chance of winning. We may find, for instance, that the mother worked at some trade or occupation during pregnancy which sapped her vitality. This might have been made necessary to supplement inadequate income. We may find sanitation of home, court yard or street to have a direct bearing on the ill health of the baby. We may discover that on account of midwife or physician, or through lack of instruction and care of mother before childbirth, the baby comes into

the world, or soon after becomes, handicapped. Home manufacture may have filled the living rooms with bad air, as for instance escaping gas, with a tailor. Such things have prevented an otherwise normal baby from being normal. Lodgers in the family, lack of windows, or windows opening on air shafts, or on a swill barrel where flies congregate, or a defective milk supply (if bottle fed)—any or all of these might well be, and possibly are, the causes of many babies growing up physically imperfect. As a result of this supplementary examination into environment, laws might be enacted which would materially affect for good the health of generations to follow. In other words, the measuring of a baby up to a fairly perfect physical standard, no matter by whom devised, should not be the end and aim of a Better Baby Contest.

Nor should we stop at bettering or endeavoring to detect adverse physical conditions in their possible relations to ill health or future growth. We should go back of the baby and ask, What kind of parents have you? At what age were your parents married? Have either of them any defect in vision, hearing, speech or teeth? What are the diseases to which there has been liability? Have either of them undergone any surgical operation? What is their mental ability? In what condition does your mother keep her home, herself, your sisters and brothers? What is her general reputation in the community? How did she select her husband? How many times has she been pregnant? Did your father use alcohol before marriage and does he now use tobacco and in what form? When did he begin to use it? Has he ever had specific diseases, especially syphilis? Questions should be asked also of each of the brothers and sisters of the baby, and information sought about the surviving brothers and sisters of the father and mother. Schedules with questions along both these lines of investigation have been prepared through the assistance of Doctor Davenport and of Professor Chaddock of Columbia University, and are now being used by us at the University Settlement in connection with our recent contest.

The many suggestions we hear of and see in print in reference to a further restriction of immigration, because of the menace to our racial stock in the influx of "foreigners," are based largely, it seems to me, upon ignorance of facts as same pertain to the character of our immigrants. Apart from the perfectly proper restrictions which are at present incorporated in our immigration laws, such as relate to criminality, physical deformity, impecuniosity, etc., any further restrictions, merely as restrictions, would amount to selfishness on a national scale. Race Betterment should be a world-wide slogan, not an isolated American, or British, or German, or French, attempt.

"Of one blood hath He made all peoples." Let us take an international stand in this matter. If we restrict undesirables from our shores, they remain on some other shores. If we prevent *certain* peoples from coming hither, it is possible that we shut forever the door of hope in their faces; we blight their spirits. Under ordinary conditions we cannot as a nation meddle with or suggest changes in another nation's internal, political, economic, or social arrangements. We have no right to say to England, for instance, you must cease from having any unemployed, or, you should give women the vote. To France we cannot say that syndicalism or sabotage must not be interfered with, when the workers insist upon either. However, we can say that as the world grows smaller in circumference, due to improvements in means of travel and communication, we all must get together, all nations, and agree that, as international intercourse, so to speak, becomes easier and more general, each nation is to a large extent concerned in the general health and mental and moral stamina of all others, because such things are of mutual interest in this day of interchange of population.

As another expedient to limit immigration into this country, it has been suggested that agents be sent to all foreign countries for the purpose of inquiring into the qualifications of prospective immigrants. It is said that such a system would not be a very difficult one to inaugurate, and I am perfectly willing to grant that it could easily be done. But what is its object? To keep from our shores undesirable aliens. We are here today to confer on Race Betterment. I ask, do you mean the American race (whatever that may mean) or do you mean the English-speaking race—if there is such a thing—or the Teuton race, or the Indo-Iramie, of which latter I have never heard. It is not so much a question of what we do mean as what we should mean. My humble contention is that when we speak of Race Betterment we should include within our meaning all the nations of the world, the human race. If, when thinking of Race Betterment, we simply mean the United States, then we are not only parochial, but essentially selfish.

Coming down to something concrete, I not only believe that there is room for race improvement, but I believe that some immediate steps should be taken to improve it. I believe that because of ignorance, upon which ground we should no longer excuse ourselves, and because of selfishness on a national scale, which we should be ashamed to offer further as an excuse, we have allowed conditions not only to exist but to grow until today we cannot say positively that our civilization is not actually threatened with rot at the core. As science reveals to our wondering eye the marvelous inter-relations

between and inter-play of forces which up to a comparatively short time ago we thought of as isolated and independent, we should begin in our social endeavor to coordinate agencies for the dissipating or cohering of these forces, as by so doing they may be made to work for the good of society the world over. What does the importation to this country of a few million, more or less, of immigrant undesirables amount to? What is that as a burning question to the present-day almost world-wide extent of a syphilitic infection, or of inheritable mental deficiency? What is needed is a world-wide movement to look into and study this most important of all subjects, because it lies at the very bottom of our existence or civilization. As we grow broad in our vision, as we expand our sympathies so that they both become world-wide in extent, we will see that what is needed is a concerted action by the civilized nations of the world on the subject of Race Betterment. World movements are not so rare to-day as one hundred years ago. International conferences are in this day, indeed, quite common, and it is with this belief in the urgency of the matter, and in the practicability of the scheme, that I offer you this suggestion, to-wit:

That this Conference set in motion machinery for the calling together of delegates from all the leading nations of the world for a conference to discuss ways and means by which such nations, each acting for itself but for the good of all, can, through governmental action, or otherwise, better the race of man from the standpoints of physical health, mental attainments and moral stamina. This would be more than a Eugenics Congress, although eugenists would be, it is hoped, delegates; it would be more than a Health Congress, although doctors would be in attendance; it would be more than an Ecumenical Conference, although spiritual leaders would be there; it would be more than a Peace Conference, although peace advocates would attend. It would be a gathering of statesmen, scientists, humanitarians, and government officials, all optimists, with national and international barriers knocked down, interested in the welfare of each because the welfare of each is inseparable from the welfare of all. Prison reformer, social and unemployment insurance advocate, child labor expert, the missionary, the teacher, the doctor, the social worker, physiologist, psychologist—they would all be present to discuss the relationship of syphilis, alcohol and tuberculosis to racial betterment, and the direct and indirect bearing thereon of medicine, education in matters of sex, proper care and treatment of infectious and communicable diseases, mental deficiency, housing and living conditions, city planning, hours of labor and recreation. And above all would such a Conference dis-

cuss the positive side of Race Betterment; eugenics and not dysgenics; constructive work as opposed to destructive: perfectibility and not deformity or degeneration or disease.

Discussion.

Baby Saving

EDWARD BUNNELL PHELPS, New York, N. Y.

I believe that I am to be allowed five minutes in which to discuss the problem involving in this country the annual birth of possibly two and a half million babies and the annual death in this country of probably approximately one thousand babies a day. It is rather a large subject for rather a short time.

One of the basic principles of race betterment is "The Saving of Babies." In the investigation by the Interdepartmental Committee of the British Government on physical deterioration in 1904, a most expert testimony from all over the British Empire was taken. I will summarize in three or four lines the conclusions regarding a very important phase of the whole subject.

The deliberate conclusion of the specialists who testified was, briefly stated, that, "as though Nature were giving every generation a fresh start, something like eighty-five per cent of all children born in the world are born physically healthy," notwithstanding the exceedingly popular notion to the contrary, and, furthermore, that these children would be capable of living a normal physical existence were it not for neglect, poverty, and ignorance.

It seems to me that is an encouraging start. If Nature apparently wipes out the so-called slight of degeneration and with that wonderful kindness of Providence, of God, or Nature—call it what you will—gives the child at least for a moment after birth a fair start, an equally good start with all the other babies, what remains to be done? Why simply give that baby what God intended it should have,—that primary article of food for which alone its little digestive organs are adapted,—mother's milk,—plenty of air, plenty of water, plenty of sunshine, and keep out of its stomach for the first six months as you would a virulent poison any semblance of solid matter. I finally believe, after some years' study of the statistical side of this subject, that if we could accomplish this much, we could cut the world's infant mortality rate in the middle.

The milk stations and the various other agencies that have been employed for the betterment of infant mortality have done admirable work and are lowering the rate. But why bother with

minnows when whales are right within reach? Twenty million children are regularly attending the public schools of this country. At least one-fourth of that number, or five million children, eventually become mothers. Why not systematize the teachings of two or three or four fundamentals of motherhood in the public schools for the girls between, say, eight or nine and fifteen or sixteen years? Why not properly put before them moving pictures, manikins, illustrations, as you please, and teach them the fundamentals of motherhood, and thereby insure, at least for the next generation, proper motherhood for our two and a half million babies a year.

Discussion.

Adolescence

DR. E. G. LANCASTER, President Olivet College, Olivet, Michigan.

There is one thing that has interested me particularly—because I am interested in child study, both professional and otherwise—the adolescent period, as some of you know. Something was said here about the study of adolescence. I had a brief moment with Doctor Hoffman in regard to the adolescent suicide. Much has been said here about the care of mothers and the habits of fathers and the importance of good breeding of children. But it does not make any difference how well the child is bred if you are going to rear that child to be fifteen or eighteen years and then let it commit suicide because of lack of sympathy, because no one understands it, because the child feels that it has tremendous power and possibilities and yet no opportunity for self-expression.

This has been brought home to me within the last month in a very appalling way. A young woman of great promise, whom I knew very well, committed suicide in a neighboring city this vacation. I do not know the cause, and presume she gave none—no cause is usually assigned for the adolescent suicide. But as nearly as I can find out, it was lack of appreciation.

We have talked a great deal about feeding and care for babies. After quite a little study of the adolescent period, I am convinced that the period from twelve or thirteen to about twenty or twenty-one, or possibly later, is quite as delicate a period for the child to pass through as the first year and a half of its life. It needs the mother's and father's sympathy more at that time. Only about half of them are alive then, as you know, of those who are born, but there is far more likelihood at that time that that child will do something that will either destroy its physical life or its moral life

or its intellectual life than there is at any other period of its existence. I know of no more terrific arraignment of our present ignorance and civilization than the fact that we allow a large number of our most promising boys and girls to commit suicide in the adolescent period and in almost every instance, as I have said, because no one understands them. They have no friends to whom they can go and really speak out their heart.

THE AMERICAN INSTITUTE OF CHILD LIFE

DR. MILLER, Philadelphia, Pa.

During the Rooseveltian administration a call came from the President for a Child Welfare Congress to be held at Washington, D. C. Educators, and those interested in the welfare of the child, came from all over the country in response to this call.

As the result of that meeting, Child Welfare has become an established fact. There have been two practical expressions of this interest. First, the organization of the Children's Bureau, under the leadership of Mrs. Julia C. Lathrop in the Department of Labor in Washington; second, but not as generally known and recognized, The American Institute of Child Life.

The American Institute deals with the normal child, almost exclusively, and the work is formative rather than reformative.

The purpose or end for which the Institute is working includes two things: *Equipped Childhood* and *Efficient Parenthood*. It is the *one* institution which exists for the individual parent, for help for the time *in* the home, drawing parents and children together.

The greatest asset of the nation is the child, and it is the bounden duty of the home, the school, and the state to conserve this asset, and make life worth while.

The Juvenile Court Record of July says: "When you save a man or woman, you save a unit, but when you save a boy or a girl, you save a whole multiplication table."

The American Institute of Child Life affiliates with over sixty other organizations concerned with childhood, from which the Institute continually draws counsel and help, and with which it is working in sympathetic cooperation.

As representative of the American Institute, I am here with you to join hands in every constructive movement for Race Betterment.

Edward J. Ward, advisor of Civic and Social Center Developments, says, "The American Institute of Child Life is the expression

of a grand idea. It aims to tell the future what we expect of it."

One of the leading problems of the hour is the twentieth-century child. So much does it occupy the thoughts of men that nine nations of the world are busy with the solution, and are taking giant strides to open ways and means to produce "future good citizenship, future right relations between individuals and Nations, between human entity, society, the state and the Godhead."

The hardest task before us today is parenthood. We need training to study and know our own child.

Plato said: "The best way to train the young is to train yourself at the same time."

The pertinent question, "How shall we put the results of child study into the home in a way that will be helpful and practical to the busy mother?" is being answered through the work of the American Institute of Child Life. A practical educator says of it: "Here is an educational institution which is undertaking in a very definite and practical manner to establish an understanding between American parents and American children which will improve the standard of the home, enrich its resources and contribute in a large and important way to the culture, efficiency and moral status of the coming generation."

No one person can be said to be author of the movement, but the late Doctor Canfield, of Columbia University, Dr. Melvil Dewey, State Librarian of New York, and other equally well-known educators, saw visions and dreamed dreams over this inspiration until they finally interviewed Mr. John D. Morris, of Philadelphia, a practical educational worker, and asked him if it were possible to bring the ideas before parents in a usable, common-sense manner. Thomas R. Patton, of Philadelphia, a wealthy philanthropist, furnished the money to make it practical. Doctor Brumbaugh, the Superintendent of the Philadelphia public schools, says the American Institute of Child Life is one of the greatest and newest ideas in home education.

It is an endowed corporation chartered under the laws of the state of Pennsylvania as an educational institution, without profit, to interpret the best that is known about children to those who love and care for them, and to give children and young people an appreciation of the best things in life, and to equip them with just the right material for their individual needs.

The scope of the plant is such that it is believed the Institute will mean as much to the individual parenthood of Americans as the Children's Bureau at Washington hopes to be to the collective parenthood. The Institute will not attempt the social interests

of the Bureau. The Bureau cannot undertake the personal endeavors of the Institute.

The American Institute of Child Life approaches the work of a university. A competent board of trustees holds the funds. Its work is directed by an Administrative Board of sixteen organized scholars, among whom are President G. Stanley Hall, Judge Ben B. Lindsey, Mary E. Woolley, Joseph Swain, Ex-President David Starr Jordan, and Martin G. Brumbaugh.

SEX QUESTIONS

PUBLIC REPRESSION OF THE SOCIAL EVIL

GRAHAM TAYLOR, President Chicago School of Civics and Philanthropy, Chicago, Illinois.

Under the conspiracy of silence and secrecy there has come to prevail a system of commercialized, segregated, police-protected vice, the results of which so deteriorate and demoralize the very stock of the race that there is little use of thinking of race betterment without at least reckoning with these sinister and everywhere present evils, the elimination of which must be a primary condition for any formative, constructive policy for race betterment. The magnitude of this system is little imagined. It is only guessed at. Its proportions are estimated by wild guesses of numbers. They can be measured to a degree by the areas in towns and cities deliberately given over to it. Here and there, now and then, we have a chance to estimate the magnitude of this evil by the diseases which come directly from it in our hospitals, under our child welfare and public saving efforts, schools for the blind, institutions for the feeble-minded, in the infirmaries for the insane, and by the victims of vice whose gruesome, never-ending procession files through our police stations and courts. We have some chance to estimate the financial investment in this commercialized vice by the forms of those investments, the profits that are made, the blackmail that is levied, the bribery of public officials—all counting up into the millions in our large cities. The clandestine type of this evil can never be estimated and possibly can never be directly dealt with. More and more nowadays a larger and larger number of men and women who have looked to see and know, have made up their minds that commercialized, police-protected, segregated vice can and must be suppressed.

The Mayor of Chicago, by the authority of the City Council, appointed thirty citizens to inquire into the conditions of vice in Chicago and to report to the City Council recommendations as to public policy. At the head of that committee was Dean Sumner, at whose suggestion the appointment was made, backed up by resolutions of the United Ministers' Meeting of the city. The commission was very representative. It had upon it judges and lawyers and doctors and business men, men of affairs, public officials and teachers and social workers, clergymen and two women. They worked for nearly two years as an official body. I shall not try to tell you of its statistics, but I will of its methods.

None of us knew how the others thought of it. If we had any theories, we kept them to ourselves. We were an investigating, not a prosecuting body. We had our sub-committees, one on the relation of the liquor traffic to the social evil, another on the sources of supply of victims of the vice, another on the relation of amusements to the social evil, and so on. Each sub-committee prosecuted its own inquiry, of course, under the direction of the central organization and the chief investigator. Investigations were made fearlessly and absolutely without regard to consequences. Official investigators were employed. They were carefully and conscientiously checked up by investigators of a different class. When the evidence was gotten in, it was laid before the sub-committee in typewritten form with affidavits, and sometimes supplemented by personal interviews with the victims with whose careers or destinies the facts dealt. These sub-committee reports were turned in to the main committee. Every word of every sub-committee's report was heard by the main committee and then given back to the executive committee and—only after the most careful correlation, challenge, checking up, and verification—was published. I do not believe up to that time in the history of the world any such frank, fearless report of the grim and terrible facts was ever dug up out of the common earth and held up in the light of the common day where everybody could see it and where a large proportion of the citizens of Chicago had to see it. At last we had a body of authenticated, verified, authoritative facts that no one, not even the police, could gainsay. Then we published those facts in that awful volume, concealing nothing except the names and the means of identification of the people we referred to. Those references remained in cipher and that cipher was looked up and placed in a safety deposit vault in the custody of two of our members, and has not been and will not be surrendered even at the demand of the City Council of the city of Chicago. If we surrendered it, we would make the most atrocious breach of confidence. We gave our word that much of this information was confidential. There was in it, moreover, the basis for blackmail that would last a quarter of a century. The report must stand for what it was intended to be—an investigation of conditions.

Now, how to discover and deal with the sources of the supply of this system, and what hopes there are of suppressing by public means, supplemented by private effort, the commercialism and the semi-public recognition of this infamy, is of direct concern to every one of us. I am thankful to say that for all the toils and risk and perils and hell on earth through which we passed, we have this to show, that across the continent to the westward slope and to the Atlantic coast, the high note struck by this commission has found echo in city after city, in

town after town, in village after village, which has started upon the eradication of the local phases of the same persistent, prevalent evils—present everywhere and absent scarcely anywhere.

This was the note that startled the land: "Constant and persistent repression of prostitution, absolute annihilation the ultimate ideal." Now, it was almost a psychological miracle that brought that sentence abroad. I presume that there were very many of those thirty commissioners who really believed that some form of prostitution was an absolute necessity. I am very sure that some of the commissioners believed that the segregation of so much of that social evil as could be segregated and placed under police surveillance was the least of two evils. But the facts from Chicago and fifty other American cities and from abroad, the facts from the cities where it was licensed, where the city became a partner in the infamous traffic, the facts from the armies and the navies, the facts from police records despite police opinion, were simply overwhelming, and drove us together and brought us out a psychological and moral and spiritual unit. And not a man or woman of us has gone back on that declaration. To this day, there is scarcely a chief of police or a town marshal who would not stand up in this presence and say, "That is a false conclusion." I will, however, deal with the police phase of it a little later. I wish first briefly to speak of the occasions rather than the causes, the occasions which account for the victims of this evil. There were over twenty-four hundred life stories studied by one of the sub-committees of this commission. These stories were gotten from the girls and women themselves or from the records which they had left in public tribunals and institutions. It was a wonderful panorama, tragic, pathetic, heart-breaking, thought-begetting. The most of them were so young, they seemed so much more victimized than guilty. A woman of twenty-nine came before us, angry at having been ejected from the house which she managed. "When did you enter this vice life?" With a far away look the poor thing said, "It was when I was very young, sir. It was the summer after I made my first communion." I shall never forget that answer. "How did you come to do it?" "What was your first experience?" "Well, you know, sir, I married." "What had that to do with it?" "When my husband married me, he put me in a resort and I worked for him so many years, and then I worked for so and so, so many years, and then I worked for myself. We women have to bear all the risk of disease and suffering, and give the profits to the men. The police have driven me out of one street and forced me into another, out of a house that I can rent on my own terms, into a house that I have to rent on a vice king's terms. Is that a manly thing to do?" she asked, and then she told us nameless things of the indignities,

the atrocities, the unspeakable desecration of all the sanctities of life.

Now she is only one of very many. Most of these girls fell before they knew what it was to stand. Because of that term "white slave" there is a current belief that a great many of them are absolutely coerced by physical force. A comparatively small proportion are so coerced, as far as we could find, and yet, those that were, made you blush for your civilization. This was the story of the United States District Attorney of the district centering in Chicago:

A little Italian girl was brought up before the United States Court, as having been imported for immoral purposes. The District Attorney said that she had the most frightfully disfigured face he ever saw, though there were traces of original beauty in the little thing. That child told this man, representing the Federal Government, this story: She was playing in the streets of her native village in Italy when a well-dressed American woman, who spoke Italian, came through and said, "What a pretty little girl you are. Wouldn't you like to come to America and be my daughter?" And the child said, "You will have to ask mamma." And she went and saw this poor peasant mother and offered to educate the child. She sent the mother one hundred dollars, and the child was given her little bundle of belongings and put on the great steamship, and on arrival was seized and outraged in New York, put into a resort, shipped and sold to Chicago, charged eight hundred dollars for the toggery-finery with which they decked her when they stole her clothes away from her so that she could not be seen on the street. Then, when she had supposed she had earned that, charged her four hundred dollars more for something else. Then her Italian blood arose, and she made a dash for her liberty. There stood a cruel, infernal scoundrel with a razor, and he just slashed her face as she went out of the door. Of course, the District Attorney took possession of the child, tried to find out where her home was in Italy, tried to return her to her family. That is the kind of traffic that has been given the name of the White Slave Traffic. But it includes the least proportion of the victims that have thus been caught like wild animals by people that go out gunning for them.

But then, there are conditions of life and labor that are almost as powerful. Don't go on saying that little people subjected to these constraining conditions are wilfully wicked, "ruined." God forgive us for saying that awful word, "ruined." Why don't we say it against the men? We counted fifteen men for every twenty-four hours, with every inmate. Talk about your fallen girl. There are fifteen of your brothers and husbands and fathers, to every one of those, and equally ruined. They may be dangerous purveyors of disease, of demoralization, just because of the double standard. Children really have been

literally stolen from their homes by offers of employment or by the temptation to deck themselves a little more gaily! Hair ribbons and a new hat, a pair of shoes, is an offer that the child takes without knowing where it is going to lead to at all. There was an awful case, not long ago, where a man of forty years of age had for ten years, persistently and by every diabolical device that you could imagine, tried to debauch two as dear little children as you ever laid your eyes on. A lawyer turned to me and said, after the infamy of this wretch had been testified to by these little girls, "How strange it is," said this man, "that girls that are so pretty and so bright should be so depraved." "Depraved," I said, "they are not depraved. The man is the depraved wretch and he stands acquitted by a jury of men."

Now these constraints are impossible to define. They are subjective, but they are subtle and strong. It would take a stronger will than maybe your daughter has or a greater experience than she ought to have had to extricate herself from the network that is insidiously and by prolonged effort woven around the victim. There are groups of men called "cadets" who do nothing but betray and marry young girls and deliver them to houses of ill fame. One of those scoundrels will have twelve girls and go round regularly and collect their blood money. They are known to the police, they are known to the keepers of these places, and some are officially recognized. That awful durance vile has been tolerated under this conspiracy of secrecy and of silence, and without warning the unwary of the dangers into which they are going.

Now, beyond that, there is the love of innocent pleasure. There are also the economic pressures, since low wages have considerable to do, not only directly but indirectly, with opening the life to temptation—if not directly because of economic want upon the part of the victim, then because of the overerowing in tenement houses, or perhaps because of the lack of a due amount of innocent pleasure.

In addition to all else there lies underneath the mysterious fact of the unnecessarily strong passion upon the part of the male which is like the surge of the sea, always everywhere, like the awful atmospheric pressure. There is an artificial stimulation, by the allowance of these segregated districts and by the connivance of the police. In those bad old days when the international trade first was attacked in Chicago, Federal Secret Service men were needed to prevent the police from "tipping" off the cases of the United States District Attorney. When he got his own detective from Washington he routed those gangs and had men jumping twenty-five-thousand-dollar bails in four weeks' time. He cleaned out the whole mess almost as by magic, demonstrating the fact that with an honest police force, the commercialized, segregated vice could not exist.

Then we have got to humanize our courts, and we will have to have women jurors, and we will have to do what Judge Pickney of the Juvenile Court has done—see to it that a woman assistant judge hears the cases of delinquent girls in chambers with no one present except the children's parents and the witnesses. We will have to enlist all the agencies that lie back of the family life. The investment of twelve millions of dollars in the public playgrounds and field houses and recreation centers of Chicago is the best investment of public money that I have ever seen anywhere. Thousands and thousands of young people are innocently amusing themselves, and making amusement and pleasure a source of education. The great segregated districts were broken up by one determined effort of the State's Attorney. The houses were closed and darkened and silenced. Now and then, here and there, one opened up.

I say that the guilt for the consequences of disease and deaths and demoralization and temptation and advertising and of flagrancy of these nameless and shameless groups of evil, lies with the people who persist in the declaration that there must be silence and secrecy about it. One of the recommendations of the vice commission was not only better police, not only stronger spiritual forces, but a safe, sane training in sex hygiene. It was begun with the parents and it was continued last year by authority of the Board of Education with about twenty-one thousand high school pupils, by forty carefully selected physicians in very carefully supervised and censored lectures, under the masterful and sane and visioned leadership of Ella Flagg Young. She is holding still the fort. I hail Chicago, the first great city to have taken such a strong, aggressive, affirmative, formative, constructive policy toward one of the greatest shames and most unspeakable and unnecessary evils of civilization—segregated, commercialized, police-protected vice, which should be immediately repressed and ultimately annihilated, as it can be, if you and I will stand up to the job.

Discussion.

Scattering Prostitution

DR. S. ADOLPHUS KNOPE, New York, N. Y.

I should like to ask one question of our distinguished guest, Doctor Taylor. Will he kindly tell us what has become of all the women who have been driven out of these houses? I am in greatest sympathy with his work. I don't believe anyone has ever done any better work in behalf of social welfare, and of redeeming the unfortunate. But there are thousands and thousands of our unfortunate sisters—sometimes called fallen because we men caused them to fall—for whom I believe something should be done along the line of race betterment. We are

doing some very modest work in New York compared with that done in Chicago, but we have done something. I should very much like to know of Doctor Taylor whether there is something similar done in Chicago, or of anyone here who can tell me of anything similar being done in other cities. We have established a house. We do not call it a Magdalene Home, but simply "Waverly House," located at 11th Street, in New York, near the Night Court. There, any poor girl, tired of that life, who wishes to leave it, is received with open arms, given instruction, taught some kind of trade and, if possible, returned to her family or given an opportunity of earning an honest living. Some girls are sent there who have committed an offense for the first time, sent there by the judge and a probation officer. A noble-minded woman, Miss Miner, is at the head of it. I do believe we can do a great deal for them, and I want to repeat here, we have done something. We have thirty-three per cent of cures, and that is a good per cent, I believe. Thirty-three per cent of those unfortunate women have been returned to their homes, have been returned to society as useful and noble women. We have also looked after their physical welfare and have tried to make them healthy as future mothers, for they are entitled to the same privileges that we are.

Discussion.

Vice and Mental Defect

GRAHAM TAYLOR.

About thirty-three per cent of the women studied by the vice commission were found to be feeble-minded through retarded development. That ought to be taken into account from the start.

When a drastic sudden raid was made, which none of the social workers or the vice commission had anything to do with, I had circulated a notice all up and down the red light district that a hotel had been procured and that any person ejected from a disorderly resort would be taken into that hotel. Not one single applicant applied for shelter, not one, and I suppose there were 600 thrown out without any notice at all that night. Every one of them was taken care of by her manager.

We have houses, but not quite up to the standard of the "Waverly House," which Miss Miner presides over. There are very few Miss Maude Miners. I think those women, especially those who have any indication of retarded development, should be taken possession of, just as the feeble-minded girl is, and should be segregated and kept under the protection of the state until fit, if ever, to be at large. There is nothing short of that kind of long-distance championship that will ever win out.

*Discussion.***Race Degenerates**

DR. JAMES T. SEARCY, Tuscaloosa, Alabama.

I started to rise a minute ago when the statement was made that a large number of the women who occupy houses of ill fame are imbeciles or weak minded. That is a fact, and the commercialized part of the business largely deals with that kind. They can be commercialized, bought and purchased and shipped.

Two elements enter into immorality, as I find it in my institution, as I have observed it. One element is the inability to hold to the right and avoid doing wrong, inherent in the person, a sort of imbecility, if temptation and opportunity offer. The other element is a perverted morality, which delights in doing wrong. These are two extremes, in the question of immorality, illustrated in police courts all over the country. They are race degenerates who come into the police courts continually. Any mental discipline, any instruction, any effort put upon them, and they come back.

*Discussion.***"Waverly House"**

DR. S. ADOLPHUS KNOPF.

I have been watching throughout this Conference to hear just one word said by the women about a large number of your sisters. I refer to the thousands and thousands and thousands of poor girls who have been led astray and who are now what is wrongly called "fallen." If anybody caused them to fall I presume it was a man. Now, Mr. Chairman, ladies and gentlemen, I want to ask you whether they ought not to be included in race betterment. I want to ask the women here today, to do as we have done in New York, to open a house and to call it anything but a Magdalene Home, and to try to get into it those unfortunate sisters who are willing to leave that life voluntarily, who are tired of it, and give them another chance.

Now I want to tell you of our statistics and show you what can be done if you women and we men hold out a helping hand to those poor sisters of ours. We have thirty-three per cent of cures. That means out of 100 women who voluntarily came to us, or who were sent to us by the judge of the Night Court, to give them a trial, we have thirty-three per cent of cures. We watch them for a year or two after they have returned to their homes. Many of them have become mothers and I hope good mothers. As our little movement, which we call the "Waverly House," has also added a little bit to the betterment of the race, I ask that you going out, going home, will try to start such a movement and give your sisters another chance to be mothers also and thus help in the betterment of the race.

*Discussion.***The Florence Crittenton Mission**

DR. CHARLES G. PEASE, New York, N. Y.

If you are not able to start that work of salvation at home, a rescue home for women, then you can assist the Florence Crittenton Mission. They have eighty homes for girls in this country. You can assist them and they need your assistance. I am identified closely with both those organizations in New York City and about 80 per cent stand true. They have a league that they join afterward. It is a wonderful work and it needs more support.

*Discussion.***Prostitution and the Cigarette**

MISS LUCY PAGE GASTON, Chicago, Illinois.

I want to give you one incident of my experience. A call came to the Woman's Temple the other day pleading for rescue. It gave the number, 34 Custom House Place. This was before the red light district was moved down to the 22d Street district. I called up the Chief of Police. He sent two of his trusties down to that place and within an hour that girl, bag and baggage, was at our Anti-Cigarette headquarters. A man had told her, when he found her crying on the stairs, that there were women at the Woman's Temple who would help her if she would only make the appeal. They gave that poor, persecuted child my name. She told me her story. It is the story of thousands of girls who are going wrong. She was not an immoral girl. She was simply a silly, foolish girl. Here in a little city of Michigan she entered upon a flirtation with a traveling man. That man was a procurer from Chicago. She was a seamstress. He offered to pay her as much per week for sewing in his own home as she was making and offered to give her board. She very naturally accepted the offer. She found herself a prisoner with her clothing hidden and unable to make her escape.

I know hundreds of those girls. They have told me stories that have stirred my very blood. It seems to me that the people in all these little villages and country places ought to be warned of this sort of thing. I tell you, before High God, that the churches and the good people are to blame because there are not organizations that will take in hand every boy and girl and pledge them to total abstinence.

Doctor Taylor will bear me out, that it is not the girl who is a temperate girl, who never touches beer or liquor or cigarettes, it is not that kind of girl who goes wrong, but the girl that has loose notions upon these lines.

Oh, friends, we ought to do more in the way of prevention. It stirs my heart when good Doctor Knopf gets up to appeal for these girls who have gone wrong. Here we are, seeing them going the route that has led to ruin, and we are doing so very little. In a dance hall last winter in the city of Chicago I saw the boys and girls there, not one of them 21 years of age. The boys were drinking, not beer, but whiskey, and smoking cigarettes. Those young people were on the road to ruin, if they were not already ruined, and they were school children.

I tell you the conditions today in our high schools, yes, and in our grade schools, call for a much greater amount of attention than we are having. You have got to have heart interest as well as head knowledge. I do not know that I ought to say this here, but I feel it to the depth of my being—who today knows more of the effects of drugs, of cigarettes, of drink, than do the doctors, and yet in every community we have doctors who are not above suspicion on these things.

Discussion.

The Girl Who Goes Right

DR. LUTHER H. GULICK, New York, N. Y.

I had hoped in telling you of the Camp Fire Girls that I had aroused some interest in the girl who is going right, but nobody seems to have followed my cue. So I want to follow my own trail for a moment more and make about six definite suggestions. The rank of a Fire Maker is the first real rank a girl makes. We try to be pretty careful not to run foul of prejudices, hence we do not use the word sex hygiene or sex instruction nor anything of the kind. But to become a Fire Maker one of the requirements is that the candidate must know what a girl of her age ought to know about herself. That is enough for the guardian and for the mother and for the teacher.

I should like to ask you to ask yourselves these questions, filling in the name of your own city. I will put in Battle Creek because that is where we live for the present moment. What chance is there for a girl to go right? I do not know the answers; there may be good answers to all of these—what chance is there for boys and girls to go swimming in Battle Creek under good conditions? That is a right of childhood. Life, liberty and the pursuit of happiness—I have heard those words somewhere!

Second, What provision do you make in Battle Creek whereby groups of girls, Camp Fire girls or others, or groups of boys, or groups of boys and girls together with guardian or chaperon or whatever you choose to call them, can go off for a tramp of five miles and find a good place to make a fire and a place to bake some potatoes and have a good time together and come back home again, normal, good kinds

of things? Is there anybody in Battle Creek who will furnish that kind of an opportunity to be right outdoors?

Third. Do you know that the love of Nature, I'm not now referring to knowledge about Nature, to scientific knowledge, I am referring to just plain liking flowers and the stars, and the birds and the bees—this love of Nature is established before ten? Very few people establish it later. What chance do you people in Battle Creek give to the children under ten to come in contact with real Nature at first hand with somebody that loves and understands it? I do not mean a pot in school or a window garden. I mean plain outdoors. I understand you have some outdoors near here. What chance is there for your children under ten to get it down into their souls so they will have it as a precious possession all the rest of their lives? What chance is there for your boys and girls to spend a week or a month out camping under proper conditions (where you will know there won't be tramps or any other improper people coming around) within a radius, a tramping radius, of Battle Creek, where it is beautiful, where they can swim, where they can build a fire and where they can do the things that every human being ought to do in their teens? If there is not such an opportunity, get up a committee and get such a place and administer it and see that Boy Scouts, Camp Fire Girls, or any young people at proper times get the chance to establish this neuro-muscular habit of wholesomeness.

[Voices, "Good!"]

When young people want to have birthday parties, can you get the use of a room in a school building for that purpose? If not, why not? These buildings belong to the taxpayers. They ought to pay for the extra expense for light, janitor service and the like, but there is no reason why the schools should not be used by the citizens for their social purposes. People say sometimes that it is undemocratic to give the use of the school room to one group and not let everybody come in. That is a false notion of democracy. Let me illustrate. There is room for 40 baseball games going on at one time at the playground in Prospect Park in Brooklyn. Now by application your baseball team can have the use of one ground at 2.00 on Saturday and you are protected in that right and it is not called undemocratic. If you allowed everybody to use that ground all of the time the result would be there would not be any baseball at all. Now, social life cannot be carried on without the recognition of the fact that clean life and social grouping has got to be recognized. When my daughter has a birthday and I want to surprise her and get her and her friends and their friends and form a party, it is not probable that I have got a room big enough in my house for it. It will be better for the entire community if I can be

allowed to use a school room for that purpose and it will be better for the school.

Are there men and women in Battle Creek who love boys and girls enough to give their time to go with them? I do not mean as a duty. Young people hate to have other people do their duty to them. Are there any men who remember how to make kites and bows and arrows and push-mobiles, who like to work with tools and who have a tool bench and will work with boys? You can do anything if you have such men and women here. If you haven't, then you haven't that kind of parenthood which is large enough to reach beyond your own children.

It is easy for us to get up in this room and talk about race betterment. The real thing happens when we get right straight at it with the boys and girls and we can shape them as we please if we like to do it. Is there any chance in Battle Creek for boys who have a mechanical turn of mind to make things with tools and benches? There ought to be. It will be to the advantage of Battle Creek, and every other place is going to employ skilled labor later on. A great many boys and a great many girls will have tools and a chance to work. During all the ages they have had it in the home, because the tools used to be in the home. But the tools have gone from their home. Are there any places where boys can do things who are motor minded, who love tools and who want to make engines and automobiles and bicycles and steam boats and all those things? If not, it is too bad. Do you have any appreciation of those instinctive feelings that lead boys a great deal and girls somewhat to compete in athletics, that is, do you have a sane public school athletic league? I do not mean an athletic league that merely takes the biggest interest in boys and trains them hard for public exhibition. I mean an athletic league that gets 80 per cent of all boys into action who love it. If you have not, you have not one of the most important social inventions. Is there anybody here who realizes that all of this conquering of air has grown out of our knowledge about kites and that boys love kites and that a kite flying contest in Battle Creek or the model aeroplane club would occupy the time of some hundreds of boys probably? It does at New York, enthusiastically, earnestly and they are learning things. Are there any men and women in Battle Creek who realize that to think up things of this kind and put the machinery back of them to make them happen is the kind of thing that will really deliver the goods?

Discussion.

The Single Standard

PROF. SAMUEL DICKIE, President Albion College, Albion, Michigan.

I confess to being taken somewhat by surprise in being called to the platform. All I need to do and all I can do is, after good Methodist

fashion, to say Amen to everything I have heard. It is a trite old saying that the time to make a man what he ought to be is to begin at least with his grandfather. Some advocates of race betterment think possibly that the great grandfather would be the proper point of beginning. I want to emphasize if possible the sentiment set forth in Doctor Taylor's address demanding the wiping out of this double standard of morality. And may the time soon come when men and women will be judged by precisely the same standard.

I attended, several years ago, a great gathering of women in the city of Buffalo. Unexpectedly called to the platform immediately following a very eloquent Baptist minister who had been giving the ladies great compliments, I said, at the outset, to a vast audience of women, "Ladies, if the time ever comes when the women of this country are as good as the men, we shall have made considerable progress." And you could just have heard all those women drawing in their breaths. I feared that the roof of the opera house would descend upon us, and made haste to explain. I said, "Of course, ladies, with the prayer meeting full of women, and the penitentiaries full of men, I am not talking about the question of simple conduct, but," I said, "let me tell you what I sincerely believe: If the time ever comes, God grant that it comes speedily, when the women of America, and the young women, and the marriageable women, demand as high a standard on the part of the men who are to walk through life by their sides, as even we men now demand of the women, great progress will have been made."

Do not think me criticising womankind, for I believe in woman, and I trust woman, and I want to give woman the ballot, and I want woman to do everything that a woman can do, but I want to say to you that the women of America can do more to wipe out the double standard than the men can do.

Discussion.

The Boy's Temptations

DR. AMANDA HOLCOMB, Mount Pleasant, Michigan.

I want to speak for the benefit of our boys who become men who do not get a square deal. When we talk about the one standard of morals, give them an equal part. As a school-teacher I taught boys and girls together for seven years. I found my boys just as square and clean as my girls—and a little more to be trusted. I am raising boys and girls in my own home. My children, my boys, have just as good a standard of morality as my girls. In my work in Chicago I met a woman who, when her child was born, said, "Oh, I

am so glad it is a boy." I didn't like that because I like girls and boys, too, and I said, "Why?" "Well, if this boy does wrong he won't be blamed," was her answer.

That is the beginning of the double standard—in the minds of the mothers, at the birth of children.

[Voices: "Oh, no. No."]

I find it so in my experience. Our girls are kept in the home, are watched over, are taught and they are protected by every woman and by every man. I had my eyes opened first at the age of twenty-four when I was a medical student in Chicago. The President of the social purity work of Iowa said to me, "You girls think you are mighty fine, and you are, but I want to tell you that when young men stand straight and clean, at this time of the world, they are a hundred times better than you are." That is what he said, and I thought of it for weeks and months, and I found it was true. He said, "You girls can walk these streets of Chicago and there is not a man who dares to offend you—he would be brought up in the courts; but we boys cannot go one block from this college without being invited. We are tempted from within and from without. If we stand firm we shall have no credit, while you girls have few temptations within, and no temptations without, and you consider yourselves better than we." Doctor Taylor said these girls were so young. I have had more confessions from the young men in Michigan than I have from young women, in my practice of medicine, in the state of Michigan. In writing up their cases they turn pale and they say, "Doctor, I was only 17." And a boy of 17 is only as old as a girl of 14. Why haven't we laws to prosecute the women who desecrate our boys of 16 and 17? It is only the older women who do that. We should have laws. We cannot demand an equal standard until we give our boys an equal chance.

Discussion.

Real Meaning of the Double Standard

DR. LUTHER H. GULICK.

It seems to me there is much misunderstanding with reference to the double standard. During all the ages those women who have been true to their children and their husbands have been in the line of selection, because their children survived. We men have not been in that line, ever. The men were eliminated who could not stand for the tribe and fight. Next there arose two kinds of morality: The ability to stand together whether life was involved or not, team work. That is masculine, and the man who cannot do that is not a man. Then the ability to love one's children, and to be true to the home. And that is

feminine. We each are true to our kind. Naturally the world is demanding of us men that we be clean. We are finding it hard. But we are going to learn. And the world is demanding of you women that you stand by one another, and you are finding it just as hard as we are. And it is a new kind of morality, for the women of the world, who have never stood by one another. What chance is there to abolish prostitution when young men and young women do not have a chance for wholesome relation to each other day by day. That is the thing that is in the hands of women and not in the hands of men.

Discussion.

Educating the Child Regarding the Secrets of Life

MRS. D. W. HAYDOCK, Missouri Federation of Women's Clubs, St. Louis, Mo.

The point of this convention has been education or at least I came to this convention feeling that that was why I came. At 65 I need more education. I believe the most of the rest of us do. As a 65-year-old mother I want to tell you I began with my boys and my girls when they were three years old to tell them parables, as the Lord taught, trying to follow in His footsteps regarding the secrets of life. I was a city missionary for years before my marriage, and I know how those poor girls want to come back into life. There is nothing that can be done for them that will not bring its reward eventually. Before my marriage one of these poor girls said to me, "If ever you are married and God gives you children, see that you teach them. That is why I am here, because I did not know."

After my marriage I felt that the one thing that God had given me to do was to see that no city missionary was needed for my child. When my son was a little over three, not quite four, and my daughter six, I had given those years to the thoughts of how I should at last tell those children. One night I had gathered by my side a bird's nest, the softest thing that I could find, and a chestnut burr with its coating of velvet inside, a fern with its folded and unfolded fronds, and I told those children that in the body of every woman there was a nest softer than this because God made it, God built it. I also had a plant with the seeds ripening on the outside. I told them that in the body of this woman, whom God made some day to be a mother, there was something like these fairy fingers.

To my little boy I said, "Some day in this world God will have for you a woman. Do not dare offer her a life less pure than that you demand of her." All of my life my boys and I have been comrades. They can talk to me, the unmarried boys or the third, a married boy who is younger—they can talk to me as if I were a young man. There is nothing concealed.

For a time, of course, this parable satisfied. Later others began to instruct, but I told them not to listen to others, that mother knew all and would tell them the truth. At ten the boy with whom I had begun came to me and told me that an older boy had begun instruction. At ten that boy of mine knew because his mother told him. At thirty he said to me, "You don't know what you did." He then had charge of several groups of young engineers. He said, "I have wished sixty-five thousand times that I might send for you to come and talk to my boys"—but he did it himself. That is one of the things of my life for which I have never wished I had taken another way. If today, even about some little matter of the nursing, if I have anything to say to these boys of mine, it is because somewhere in the world there is some woman and they must give to her what they ask of her.

Discussion.

The American Mother

MRS. F. F. LAWRENCE, Columbus, Ohio.

Of all titles that have ever been given me, I am proudest of the one, "The American Mother." I believe that the world itself depends upon the American mother and therefore my interests are principally centered on the American girl or future mother. While I have taken a deep interest in the boys, I have felt a little closer to the girls and have wished that I might protect them more. I believe in that old adage, "An ounce of prevention is worth a pound of cure." You know all over this country it is dotted with institutions for the unfortunate girls. Did you ever hear of a home for the fallen men? Right there is where you are going to get your protection through the girl. Every fallen man, married or single, should have an institution that he can get into and he should be committed there according to his crime, and in that institution he should have the crime itself brought right up before him, so that it will really be a remedial work. If he is a young boy, we pity him, and we pity him because he is ignorant, so it is with the young girl oftentimes. For that reason I say, give the young boy nine months, and the old criminal ninety-nine years.

Discussion.

Vocational Education

PROFESSOR ROBERT JAMES SPRAGUE, Massachusetts Agricultural College, Amherst, Mass.

I should like to make just one suggestion. I should like to preface it with this: It seems to me that in much of this discussion we are trying to deal with remedies. We are trying to deal with appearances. We are not getting at causes. There has been quite a little said here at

this convention with regard to prostitution and all these other things, but very little said about a situation in the country that will produce a system of real, easy home living, of ideal homes.

For a moment, look at some of the cities of Germany, where they come out and take the land round about the city, put in the public utilities, the street cars, transportation, loan the money for building, prescribe the kinds of ideal dwellings, etc., make it easy for the normal home to develop. Ladies and gentlemen, there is no cure for the prostitution evil until we get the normal home. There is an economic basis for this whole business. We may drive the bad houses out of one street and drive them out of another for a while and they will turn up somewhere else. We have got to get the normal home.

Another point right along that line: In the United States the most of our criminals come from the roving bachelor class of the twenties. In this country we have an enormous number of young bachelors, who come out from all parts of the country, who have had no opportunity to learn a trade—along in the twenties without a trade—with all the impulses of manhood. They struggle through those twenties and come to the cities before they get settled in life. Gentlemen, an efficient system for vocational education in this country will do many of those things that the German system of education is doing. It will give boys an earning power at the age of 22 or 23 so that they can marry at 23 or 24 or 25 and support a family. That will do much for the reduction of our criminal classes, a large majority of which come from that zone of life. It will do much toward abolishing prostitution in this country, because every time a wage-earning boy marries a girl and establishes a home under the right conditions, he removes the material for all of that kind of thing.

We have got to work on a sounder economic basis for the prevention of these things that we are trying to get rid of. When we get the normal home, so that the boy can have a normal life and a normal earning power, and can marry the normal girl with a normal education, and when the state and the city come in and establish conditions so that he can make a normal home and get a dwelling under easy conditions, we have solved—not solved, but we have relieved—a very great social problem of society.

Shall we not go home and try to get into our state establishments for charities a little more of a constructive eugenic program? The state associations in which I have been more or less interested are dealing largely with the negative side of eugenics. I think that there is good opportunity for getting in a little more of the constructive eugenics into those programs. I think there is a chance for large things, because those things have the interest, they have the prestige,

they hold the attention of the people. I believe that by doing that, by getting into the directory of these establishments, we can get into those programs matter which will have a great deal of influence in arousing the people to think along these lines.

Discussion.

Use of Newspapers

H. A. BURGESS, Chicago, Illinois.

This world is getting better. The newspapers of today are getting better. I have heard talks about patent medicine advertisements. You would be surprised how they are being eliminated out of the newspapers today. The great agencies in Chicago and New York have hard work placing these advertisements in a great many papers. Here is my suggestion: Why not, in every community, each week, have a column given to the newspapers, which I am sure they would gladly print, in reference to just such suggestions as are being made in this convention?

THE SOCIAL EVIL

(A Special Address to Women—Illustrated by Stereopticon.)

DR. J. H. KELLOGG, Battle Creek, Mich.

I made up my mind a good many years ago that there are three things in the world that are especially bad: One of these is the slavery of animals to men, because of the brutality sometimes involved. Even worse than this is the slavery of men to men. But the worst thing in all the world, the most dreadful thing, is the slavery of women to men.

By and by the ballot will give women freedom. When women get the franchise, I believe the white slave traffic, and all other kinds of slavery of women to men, will be abolished, and the world will be freed from this greatest evil.

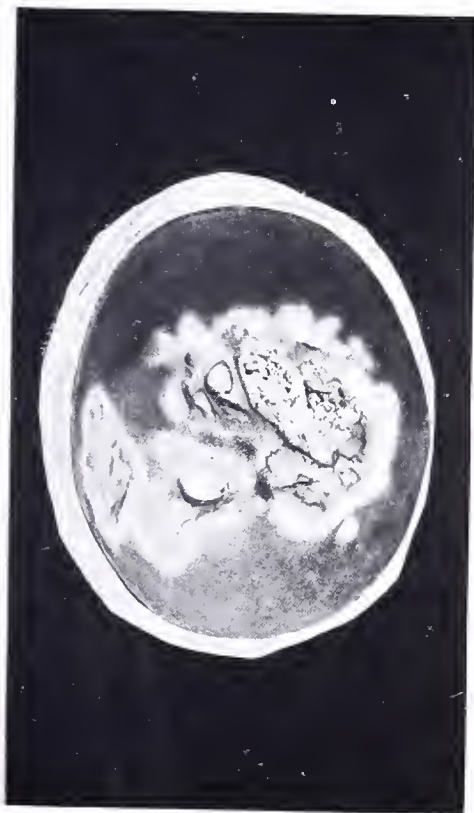
Now, ladies, in our chapel, and down at the Congregational church, some views are being thrown upon the screen to give to men a picture of some of the terrible things for which vice is responsible. I have selected just a very few views to throw upon the screen here, that you too may be informed. You have a perfect right to be informed with reference to the physical aspect of such diseases, since they are more or less prevalent in nearly every community. We need to get the same dread and the same repugnance for these diseases of vice that we have for smallpox and other communicable maladies. If you know there is smallpox in the house, you are afraid of it. If there is a red flag put out, people are alarmed, and yet there isn't any very great danger, as smallpox is not very readily communicated. If the nurse who has care of the smallpox patient will simply keep his whole skin covered with a little carbolated vaseline, nobody will get the disease from him.



Syphilitic Sclerosis of Tongue.



Examples of Hereditary Syphilis.



Syphilitic Caries of Cranial Bones.



Months of the fetus.

Syphilis of the Fetus.

Not very long ago, in a hospital, smallpox patients, measles patients and scarlet fever patients were all kept together in the same ward in the same room, and the disease was not communicated from one to another. It is now known that these diseases are not nearly so communicable as we used to think they were. Reasonable care will prevent their extension. But suppose there is a house in town where the loathsome diseases produced by vice prevail, to serve as an incubator. In unthought of ways this disease may be communicated every day. For example, here comes the milkman and sends in a bottle of milk, receives his pay at the door—a dollar bill, or a silver dollar, or a quarter, or a half dollar or a dime. That money may be smeared with the virus of vice. It goes into his pocket, mingling with the rest of his cash, and in the next house he passes out the same vile quarter to a little girl who, having both hands occupied, puts the quarter in her mouth. She has an easy chance of getting an impure disease. This is only one of many ways by which it is scattered about the town.

Public sentiment has got to be changed with reference to the brothel. Clergymen and doctors must be willing to speak out and arouse the whole community to rise up in arms, to protest, and say: "We will not tolerate one of these unlawful houses in our midst." If the women of this town would say to themselves, "We will not have a brothel in this town,"—there would be none.

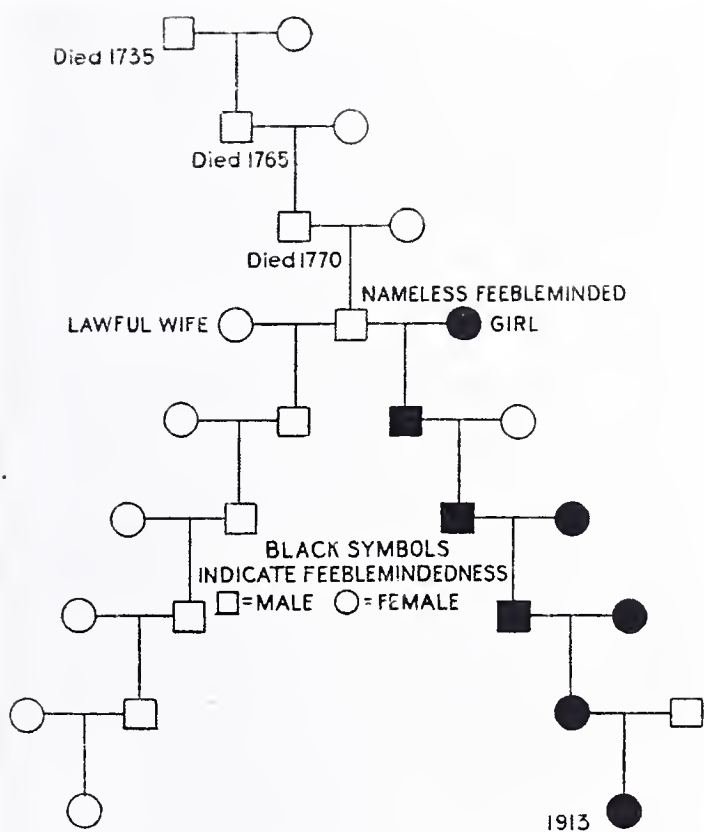
The brothel is a rendezvous of criminals. The laws of the state of Michigan, as of every state in this Union, make licentiousness a crime. No man can visit such a house without committing a crime. Every person in that house is guilty of crime, and the laws upon the statute book of the state of Michigan expressly forbid the conduct of such places, and the only reason why they exist is because the officers of the law do not carry out and administer the laws upon our statute books. We must protest against these horrible incubators of crime and disease.

But the stereopticon is ready. First I will show you some beautiful flowers. Here are two or three things you may think are not so very beautiful. They illustrate the slavery of woman to fashion. Men are the makers of fashion. To increase their gain they are continually changing them, thereby making a demand for new clothes. You know that. The fashion plates have debauched the taste of American women. They have put false ideals into their minds, until they actually believe that physical deformities are artistic and beautiful, and so they are committing crimes against their bodies which, in the end perhaps, are responsible for as much race degeneracy as these vice diseases we are talking about. Now, my women friends—I like the word women better than ladies; it is a stronger word—my wo-

men friends—I beseech you to think of that. How can you expect that men are going to respect the laws of God which relate to their bodies unless you respect the laws of God which relate to your bodies? This debasing, abusing and damaging the body, degrading the body in obeying the mandates of fashion, is perhaps, on the whole, as harmful and as damaging as the evils that can be traced to vice. I just want you to look at these splendid figures, strong as God made them. They are two daughters of a king from the Congo region. They have splendid bodies, strong, vigorous and well, capable of performing all the functions of womanhood. Here are two more good, strong, well-made bodies, ignorant and debased by savagery, but splendid bodies. Now, isn't civilized woman entitled to just as good a body as a savage woman? We are all born savages and have to be tamed. The taming sometimes goes so far as to spoil us. Now look at this Venus of Milo. Here the liver, colon and stomach and kidneys are right where they belong. Every organ is where it belongs, all above the lower border of the ribs. Here is the figure of a woman who had worn a conventional dress. She could not be convicted of tight lacing. No woman ever did admit that she laced herself tightly but this woman wore what she called a health corset and you see the liver is way down out of place. The stomach is entirely out of place, as is also the colon. Both kidneys are displaced and the organs which lie naturally above the lower border of the ribs were in this case nearly all below the lower border of the ribs and of course there was an ugly prominence of the lower abdomen that had to be held in by some sort of corset to give it shape.

Some diseases and weaknesses are hereditary. A boy is a chip off the family block, not off the father block alone. It is fortunate that this law exists because by means of this law it is possible to breed out evil qualities and to breed in good ones. When one parent is defective, feeble-minded, the children of the first generation may not show this, but in the third generation the children may show it, but if both parents are feeble-minded, then all the children are feeble-minded. This is well shown in this genealogy here, the Kallikak family. A man in a state of intoxication had a child by a feeble-minded girl. He afterwards married. All of his lawful descendants were strong-minded, splendid people. From the descendants of that feeble-minded girl, you see a whole line of feeble-minded and criminals. After awhile, you see, a feeble-minded grandson married a feeble-minded girl. Then the children were all feeble-minded.

Now the diseases of vice are particularly hereditary in character. They are also communicated in more ways than one, not simply by immoral acts but in other ways. Let me tell you of a



Feeble-mindedness tends to be transmissible, but so does normality. The good and the bad branch of the Kallikak family

Chart of hereditary traits in The Kallikak Family.

little tragedy that happened not long ago. A man, a public servant of a city, married a young wife. Presumably he had been wandering around in haunts of vice and had become infected with a nameless disease. With a kiss upon the lips of his wife he inoculated her with that same disease. In a few months a child was born to them. It had an eruption when it was born, a primary eruption of this awful disease, and it wasn't very long before other symptoms appeared, the so-called secondary symptoms. That is what that man had in his mouth, a mucous patch, and when he kissed his wife that is what infected her. He had no sores upon his lips but the disease had become systemic and little white patches were found in his mouth, virus of syphilis, the protozoa, the animal parasite that communicates this disease, which looks for all the world like a vinegar eel when it is magnified. It bores its way all through the body and produces a deadly poison and infects and contaminates the entire body. This man's mouth was swarming with these horrible, wiggling parasites, his saliva was alive with them and some of them were deposited upon his wife's lips and made that awful sore. Thus the disease was communicated to her body and to her unborn son. By and by these secondary eruptions appeared.

I was called once to the hospital to see a case in consultation and found a young woman covered all over with an eruption such as you have just looked at. She was a girl of good character, a stenographer employed in an office, but she had been keeping company and had become engaged to a young man who had unsuspectingly inoculated her with this vile disease and her life was ruined.

Here is the more advanced stage of the disease. This shows the disease on the top of the skull eating its way into the very brain. Those spots here, when they disappear, leave a copper-colored stain upon the skin. That is one of the characteristics of this disease. The eruption at certain stages leaves behind a copper-colored spot and the doctors learn to recognize these very readily.

Here is another form of the disease, rather an unusual form. I have seen similar cases more than once. Some of you have seen persons just like that upon the street, men going about with horrible evidences of vice right upon their countenances. In the third stages of the disease you see the bones and the harder parts of the body are undergoing destruction. That poor boy I was telling you about a little while ago that was born with this awful eruption, his whole body infected, that poor little boy has gone through all the stages of that disease and at the present time his nose is almost destroyed. The roof of his mouth is almost entirely gone and that awful disease is slowly eating him up and

in two or three years more he will be dead. He was robbed of the life he was entitled to.

Here is the skull and you see the disease eating down through the bones into the very brain. Here is a syphilitic sore upon the tongue, one of the later forms, a sclerotic form of the disease. Here is another of the hereditary forms of the disease also, in the hand here, and this is the characteristic appearance of syphilitic teeth—the hereditary effect of syphilis upon the teeth. This is not the ordinary notched appearance of the teeth that is natural. It is a different kind of notch, first described by a great English surgeon, Doctor Hutchinson. Here is a syphilitic baby. More than one baby I have seen born into the world with the characteristics you see here. I want you to look at that but a moment. Look instead at this baby and carry its picture of sweet innocence in your mind (the Minnesota Baby). My friends, we must fight this evil and every other evil that is attacking the vitality of the race so that these beautiful, innocent human flowers that God gives to us may be preserved intact.

VENEREAL DISEASE

(A Special Address to Men.)

MR. F. O. CLEMENTS, Representative of the National Cash Register Company, Dayton, Ohio.

Unquestionably a great many in this audience will wonder why an industrial concern should deal with this subject, venereal disease. The President of The National Cash Register Company, from its earliest inception, has devoted a great deal of time and attention to health subjects.

We find after careful analysis that the elements requisite for success are: health, honesty, ability, industry and a thorough knowledge of the business. Health first. So you will find in our very earliest publications frequent excerpts and short sayings dealing with the underlying principles of good physical well-being. Later on these publications were supplemented by graphic methods of presentation, including lantern slides, and still later the moving picture film.

Quite a number of years ago, the need of some sane instruction with reference to sex hygiene became apparent. Two very unfortunate occurrences were brought vividly to the attention of the officers of our company. One of our very much honored and respected employees, who had served the company faithfully and well for many years, the father of a clean family, contracted gonorrhea of the eye and lost his sight. This was definitely proved to be the fault of a fellow-workman affected with gonorrhea, who endeavored to remove



The Minnesota Baby—a splendid type of healthy childhood.

a small particle of metal from his friend's eye. Still later one of our trained nurses contracted syphilis in a dental chair, due to the tools not being properly sterilized. At least the dentist recognized his responsibility in the case and paid all the bills incident to the medical attendance required.

These two very unfortunate occurrences answer the question as to why an industrial concern should spend the money necessary to collect and arrange this particular talk of the evening.

Still again, many of the officers of the company keenly felt the need of instruction along this particular line, for fathers of this and the preceding generation failed to tell their children the things that they should know.

Improved machinery moved the world during the century. We believe that the improved human machine will give evidence of the greatest progress in the century to come.

Much of the welfare work of The National Cash Register Company has to do with the boys and girls of the coming generation, and this type of lecture should, without question, be presented to the parents so that they can bring this most difficult subject to their children in the proper manner.

It is indeed gratifying, in view of the long-continued and mistaken policy of silence with reference to the functions and relations of sex, that a Christian church would receive a talk of this kind, and permit the same to be made a regular part of the church program. This has been partly due to certain medical discoveries which have contributed, to a very large degree, in changing public opinion.

The material to be presented hereafter and the arrangement thereof was done under the personal supervision of Dr. F. M. Loomis, of the University of Michigan.

After the talk was completed, and in shape for presentation, we were actually afraid to utilize the results. This was due to the fact that we were so ignorant on the subject, and had no conception of the severe penalties coming from violation of Nature's laws. Neither could we understand how sadly society was affected by venereal disease, nor even the danger to the innocent person. We felt that the statements made could not be true, and we arranged for a representative audience of Dayton citizens, particularly selected because of their association with the boy and girl problem. We had several leading physicians of our city, the superintendent of schools, the judge of the Juvenile Court, several church men, social workers, and a little gathering that totaled some twenty persons. Our entire idea at the beginning was to secure suggestions and criticisms so that none of the facts included in the talk would be subject to exaggeration or inac-

curacy of statement. For the same reason, later on, the talk was given before two of the Ohio State Medical Societies, meeting in annual convention in Dayton. Still later, the presentation was made before the Ohio State Board of Health, and before The American Medical Society in annual convention at Atlantic City.

The entire idea was to put up a scientific, well-founded talk, in simple language, divested of all medical terms, so that a boy fifteen or sixteen years of age could readily understand every single word or reference, and this, you will readily admit, is a difficult problem. To have big ideas and express them in simple terms is one of the elements of real greatness in men.

After this subject had been presented a number of times to technical societies and technical men, largely from a desire for constructive criticism, we decided that we would present same to our high-grade salesmen, fearing somewhat the outcome of the venture. Much to our surprise, the subject has provoked very little criticism, during its entire history; and the talk has been given to all of our apprentices, to the younger men of the organization, to the girls (numbering about 700), in modified form, to all of our salesmen, and the various training schools for salesmen, and to the members of our Officers' School. Some of the letters, expressing appreciation for the knowledge afforded, have been particularly gratifying, and have repaid, many times, for the money and efforts spent in preparing the talk. Most of the men were glad for this type of instruction mainly because of their children. If the community is to be protected, the policy of silence, and the concealment of vital facts must cease, and what better way of teaching is there than teaching through the eye. The larger proportion of our knowledge comes to us in this manner. The impressions made are lasting, particularly with the young. Mincing of words is unknown in this talk, and so we say gonorrhea is clap, and clap is gonorrhea.

The germ which causes gonorrhea is as easily recognized as any criminal in the Rogues' Gallery. We know that this germ and no other causes this disease, because it is always present in the body of a person suffering from gonorrhea. It can be grown outside like a plant, and, if placed artificially in a healthy man, will immediately cause the disease.

Quite a number of diagrams are shown, illustrating the simple physiology of both male and female reproductive organs. We particularly consider these diagrams necessary so that the growing boy can be told that the sexual organs do not suffer by non-use, and to illustrate the fact that the medical faker scares the boy by undue reference to emissions which might be occasioned by an impacted bowel

producing pressure on the seminal vesicles, making said emissions a perfectly natural process.

The man who says that clap is no worse than a common cold is an ignorant and a dangerous liar. Thousands of sightless babies, sterile women and rheumatic men owe their condition to the-clap-no-worse-than-a-cold lie. Unquestionably, the time for hinting at unpleasant truths is past.

There would be but little need for the discussion of gonorrhea if it were not for the fact that innocent women and children suffer so keenly the wrongs of society. A man may think himself cured of gonorrhea, and still be capable of giving it to his wife. "Whatsoever a man soweth, that shall he also reap," but in this case the innocent wife and babies are often the reapers. Blindness from gonorrhea costs America \$16,000 a day. Not long ago doctors thought gonorrhea a mild local disease. Now all good doctors know better. Beware of the one who laughs at it: he does not know his business.

Comparative slides are shown, illustrating the normal female reproductive organs, and the same organs infected with gonorrhea. An innocent bride may be infected by her husband. The germ makes its way up through the womb, and out through the Fallopian tubes, where it is impossible to reach it by injection or medication, and where it rapidly increases in number. The result is that the pain constantly becomes more severe until finally an operation is necessary. It is said that 60 per cent of all pus operations on women's abdomens are caused by common clap, and so the surgeon finds the tubes and ovaries bursting with gonorrheal pus. They must be removed and her hopes for children are blasted forever.

Syphilis, the second form of venereal disease, occurs in three stages—primary, secondary and tertiary.

Primary syphilis. The germs shown on the screen enter through a break in the skin, even though that break be microscopic in size. Several weeks later the first real symptom is noticed. There is no general disturbance in the health or appearance of the infected one. We would ask you to particularly study the moving picture film, giving all of the characteristic life movements of this spiral-shaped germ which causes so much of disease and suffering in the world. The film was made in Paris, and wonderful patience and perseverance were required to secure the results depicted here. The film is taken through an ultra-microscope, an instrument particularly adapted for such difficult work. Also consider the possibility of education by means of moving picture films. It has only been a comparatively short time that the scientific world has known the exact cause of syphilis, and in a few short years such progress has been made that we are permitted to pry into the in-

nermost secrets of Nature. As in the case of gonorrhea, syphilis never develops until its seed (the germ) is first planted. Wheat never grows unless wheat is planted.

This subject is of the utmost importance to every living being, due to the fact that it is possible to accidentally infect the innocent. Treatment for other contagious diseases is adequately provided for, but thus far little attempt has been made to regularly isolate or control **these most destructive diseases**. We propose showing you a few cases of accidental infection. One, a roller towel case. The roller towel is ruled out, by law, in a number of the states. On the other screen, an innocent infection from a telephone transmitter. Here, a boy of twelve years of age, an employee of a shoe factory, the innocent victim of the common drinking cup. These cases readily explain the legislation, which has spread all over America, calling for the abolition of the common drinking cup. Two men infected by a careless barber; every man who patronizes a cheap barber shop, where no precautions are taken with reference to sterilization of tools and towels, runs a chance of acquiring this or some other disease. Even the doctors are subject to accidental infection. This, of course, is not to be wondered at. Here are two doctors, one infected while examining a woman whose body showed no exterior signs of the disease, the other infected while delivering a child given in birth by a syphilitic mother.

Secondary syphilis. Poison distributed throughout the entire body. Enters the blood stream. Glands enlarge, skin erupts, general condition of health fair; usually little or no pain.

All of these various illustrations are taken from actual subjects, colored to perfection by an expert artist.

Public opinion has been moved strongly by this subject, largely due to former ignorance, and by the further fact that refusal to consider the question spells the physical deterioration of the civilized nations of the world. Syphilis is poisoning and slowly but surely undermining the very fountain of life, sowing the seed of death among our people, and gradually deteriorating the national health. It is estimated that 5,000,000 people in the United States are or have been tainted with syphilis, and yet up to a few years ago a question of this kind could not be discussed in polite society.

Tertiary syphilis. There is no definite line between the secondary and tertiary periods. This stage is characterized by the formation of soft tumors, which may attack any portion of the human body. Is it right that diseases that are causing more suffering; more expense and more deaths than any other disease should be allowed a free course, and that there should be no efforts to control them?

Syphilis and gonorrhea make more soldiers in the United States Army unfit for service than any other disease. A marked change has taken place in the United States Army and Navy since instruction in sex hygiene has been instituted. The Navy Department reported publicly that the crews of the sixteen battleships that went around the world returned with a better record in respect to venereal disease than was ever noted before. This was due to the instruction of our sailor boys in this very vital subject. The Prussian Army and the Bavarian Army have presented sane instruction along this line for many years, and their total average of venereal cases is about eighteen per one thousand, about one-tenth as many as we had according to the statistics of the American Army prior to the introduction of similar education.

One of the most important questions before the Race Betterment Conference is what force can be put into effect to deal with these formidable evils which greatly threaten family ties, human happiness and the very life of the race. Until recently it was impossible to discuss fearlessly and openly the question of prostitution. The original source of most of these infections is in that of irregular commerce between the sexes, known as prostitution. There are no other diseases whose absolute prevention lies so wholly in human power as these. We believe that the fellow who steals, cheats, robs and even murders is not so injurious a character to the community at large as the person who distributes syphilis.

“Prostitution is a commercialized business of large proportions, with tremendous profits, controlled largely by men and not women.” This is the statement made by the Chicago Vice Commission, an epoch-making report of utmost value to the entire nation. These conditions are with us. To pretend that they do not exist is hypocrisy, far-reaching in its harmful effects, and yet it is hardly fair to let the boy find out for himself. Many have to their sorrow.

Prostitution leaves in its wake sterility, insanity, paralysis, the blinded eyes of little babies, the twisted limbs of deformed children, degradation, physical rot and mental decay. We can show the disfigurements and sores, but we can't show the suffering, mental agony, divorcees and ruined homes caused by syphilis and gonorrhea.

Can prostitution be abolished? Not entirely. The history of the world demonstrates the existence of this vice in all ages and among all nations, since the day the first pages were written, and yet we cannot admit that prostitution, as a commercialized business, or anything akin to it, is necessary. The old way of handling the question was to exterminate with statutory enactment, with the result that vice is usually driven into seclusion, thereby aggravating the evil. The new

way must be a campaign of education, dealing with the parents of the next generation. Christianity and Democracy have failed, signally, thus far to cope with these evils, which are sapping the vitality of civilized society. It is clear that no one force or agency can be relied upon to bring to pass the remedy. We do believe, however, that there is a public conscience, which, when aroused to the truth, will instantly rebel against the social evil in all its phases; and so it is incumbent upon all right-thinking men and women to raise social life to the highest standard of righteousness, and to teach the youth of our land loyalty and honor to womanhood.

Since this is an audience of men, I would say that the one thing that we can all do is to live cleanly. Some poet of the past has aptly said, "Your actions speak so loud that I cannot hear your voice." We all have great influence over the younger life of the nation by our example. The man who tells dirty sex stories should be suppressed. Let him tell them to his own son and daughter.

The finest crop that this nation raises is its crop of American boys. Every year nearly one million reach manhood. Many of these, at the present rate, will acquire gonorrhea and syphilis, a very large number ignorantly. These young chaps are the flower of American manhood, our own younger brothers, the boys who will grow up and marry our sisters and daughters. We believe that they have a right to this type of knowledge, and that they should be forewarned as to the besetting dangers of life. You remember that to be forewarned is to be forearmed. Such instruction should be given preferably in the home and by the parents. Unquestionably, this type of lecture is particularly suitable for the enlightenment of parents. It would be folly to introduce sex hygiene in the schools until the teachers are suitably trained to impart this knowledge in the proper way. Intelligence regarding sexual matters, if discreetly imparted, is a safeguard to the youth of the country, yet the indiscriminate circulation of sex information among children by means of books and pamphlets is dangerous.

We realize also that the reformer, so-called, can do a great deal of damage in handling this subject. For that reason a sane presentation of the subject is much to be desired, and I think you will agree with me that it has been sane.

The greatest menace to the girl is the man without a spark of either bravery or honor. Fathers and mothers should be companions and comrades with their children, far more than is customary, and there would be very little prostitution. Today, mothers teach their daughters nearly everything except the things they most need to know. Why not place sexual matters on the same basis as any other natural function of life? It can be readily accomplished, utilizing some of the

beauties of Nature, for instance beautiful flower slides and films. These, especially in natural colors, permit opportunity to mention the botanical and zoological side of reproduction, and also call attention to the beauty of Nature methods of reproduction of kind.

No father or elder brother has a right to look his little boy or brother in the face if he is letting him grow up in ignorance of this most vital question. As we learn, let us teach, preferably through the eye, and little by little the results will surely come. Venereal diseases are not theories but facts. The only way that we can save ourselves is to tell the coming generation what we know, and practice what we tell. An ounce of prevention of these diseases is worth a hundred pounds of cure.

A MAN'S PROBLEM

(A Special Address to Women.)

J. N. HURTY, M.D., Commissioner of Health, State of Indiana, Indianapolis, Indiana.

Early in my work as Secretary of the State Board of Health of Indiana I took up this problem that we have before us tonight. Two members of the Board were specialists in the cure of social diseases. Early in my experience in medicine, I had served as an assistant to a specialist in that line. As a young man, I was astounded to discover some of the truths that came out of those offices. I will not attempt to tell you of the things that I saw there, for they would make your blood run cold. That is all I have now to say of this matter. But it started me to thinking early in life. Can the human race possibly be saved from the terrible social diseases? Is it possible? I believe it is possible. Oh, but what a long, hard road the human race must travel before it is rid of the social diseases.

But where lies the battle? What is the cause that these terrible sexual plagues should so continually and so horribly plague the human race? What is at the bottom of it? I think the principal reason lies in the very strong, exceedingly strong, sexual appetite of men. We know full well that that appetite was given for a purpose by the Creator, and, at the same time, He gave us freedom of will and gave us power of free will to exercise and to control it. The social evil is largely a man's problem.

Let me tell you what we have been trying to do to check this evil in Indiana through the Health Department. We have given a great deal of time and a great deal of work to the prevention and cure of tuberculosis, but I believe this is more important. Now that we have the laity going upon the subject of tuberculosis, the state health

authorities are withdrawing from that fight—that is, from the forefront of the fight, to take a place in the rear, to push from behind. Now we are trying to start a public, open fight against these horrible plagues, which, to me, seem more horrible and of more importance than the conquest of consumption.

How to attack them, how to get at them, that is the question. It is obvious and plain that if men were but virtuous, we would have none of them; that in proportion as we can make men virtuous, in that proportion will we get rid of them. I think that is reasonable. How shall we do it? Shall we commence with adults? Shall we commence with grown men that have not restrained themselves, have not acquired that control over themselves which they should have acquired in youth? Shall we begin there? Will it do any good? I think not. We must begin with the child. I want to read to you some of the little documents and writings that we send over the state in order to prepare the public mind to receive the bare truth. We send out a circular that is now in its third edition of 115,000. It treats of this subject plainly, squarely, straight out. It was at first denied by the rule of postal authorities the privilege of the mails because it spoke so plainly. When we presented this circular to the United States postal authorities and got a reply it would not be admitted to the mail, we appealed to a man whom we all know, Theodore Roosevelt, and he put it into the mails. I want you to know of that one service, for I do think it was a great service. Now that circular may be sent in the mail. We are glad to send it to anyone who will write for it. It tells the story from the scientific standpoint. It appeals to manhood and to womanhood. It is intended more for the young than for the developed, but nevertheless, we find it is read with interest by all. That circular has gone around the earth. That is one thing that we have done. Now I beg your indulgence to listen to one or two or perhaps three of the little sketches we send out, hoping thereby to prepare the public mind, for we get letters condemning us for taking hold of this subject at all. In tracing back and finding the names of some authors of these letters, we found that in three instances they were officers in churches, protesting against any rational effort, any kind of effort to check the social plagues. So we have had to try to prepare the public mind, and of course, it is not yet prepared. The first sketch is entitled the Diseased Child or rather Diseased Children:

“A weak, sickly child is indeed a sad sight. The putty complexion, the lack-luster eyes, the thin hands, arms and legs, and the weary look make our hearts bleed. But why is the child diseased? How came

it to be diseased? Have the sins of the father descended? If they have, why is he not arrested and punished? If he were to slowly poison the child with a poison bought at the drug store, he would be promptly arrested and punished. What is the difference? Ask the child which poisoning he prefers. He will certainly tell you when he has suffered and salved his sores for a few years that arsenic poisoning is preferable to blood poisoning. Why does not society class as disgraced him who bears syphilitic poison in his blood, having wickedly put it there? And what a strange, inconsistent thing is society, anyhow. It has one standard of morals for women and another for men. And, so long as this condition prevails, so long will the blood sins of husbands descend upon their wives and children. In the Orphans' Home at Indianapolis are seventeen innocent children all suffering from the hereditary malady which is worse than leprosy. They cannot develop into strong, useful members of society. The disease prevents. They will be a burden to themselves and to the state all their lives, and possibly produce more like themselves. Why does society permit such conditions? We strive to prevent fire, for it destroys property. Why not strive to prevent that awful disease that burns up human beings? Is it our high intelligence which keeps us silent and inactive in this matter?

"The law should require the prompt reporting of cases of the social plagues. They are, excepting in certain instances, acquired in sin and self-disgrace. Why should we speak of the matter in a whisper? Is our silence strength, or weakness?"

This was sent to three hundred papers in the state of Indiana six years ago. Only six of them would print it. Do you think there is anything horrible about it? Anything terrible? But since then, numbers—I don't know how many—have printed it and since then much editorial comment has been heard. Let me give you another one, simply entitled, "Her Baby Died."

"The hour for the funeral had arrived and neighbors were coming in to the services. The dead baby lay in a little white coffin lined with white satin, was dressed in white, and flowers in profusion decorated the room and testified to the sympathy of the neighbors.

"The preacher made a short prayer, uttered a few comforting words, a song was sung, the little baby was borne to the white hearse by four young girls in white, and the procession moved toward the cemetery.

"The baby had died from intestinal disorder induced by wrong feeding, yet the preacher had said—'The Lord giveth and the Lord has taken away.' The doctor told how it all happened. 'That baby,' said he, 'was born strong and healthy. The mother nursed it for

weeks, but finding that nursing interfered with bridge parties and other social affairs, she provided a bottle, and when she was absent, her aunt, who lived with her, fed cow's milk to the baby. This irregularity of breast-feeding soon lessened the amount of the mother's milk, and she concluded she would cease nursing altogether. The child seemed to do well on the bottle for a while, but it soon became evident that something was wrong. One time I saw the mother give a piece of rich pie crust to her baby, and I warned her against doing so. She told me she found the infant liked coffee, and a little was frequently given to it. And so, despite my medicines and my warnings in regard to feeding, the child's digestive apparatus gradually broke down. An old grandmother told the mother it was natural for babies to throw up. Another one prescribed soothing syrup which contained morphine. Another one recommended anise seed cordial—and so it went, the young mother being willing to depend upon drugs and remedies, but not to practice 'prevention' by feeding rationally. When the digestive machinery was put to the bad, the baby finally took dysentery and died.' Continuing, the doctor said: 'I had three infants die of pneumonia last winter, simply because their mothers would not give them air enough. In spite of my instructions that plenty of air made babies strong and protected them against colds and coughs, still they would cover their babies' faces with veils and napkins, keeping the life-giving air away. The foolish idea,' said the doctor, 'which seems to exist everywhere, that fresh, cold air is injurious, must somehow be extracted from the minds which hold the same, or else pneumonia and dead babies will always be with us.' "

There is another entitled, "The Ladies and the Alley Children:"

"A very rich lady who owned a beautiful garden concluded to spend the summer at the seashore. While contemplating the pleasure she would have, the thought suddenly rose in her mind, 'What shall I do about my flowers? The gardener will look after the garden,' she said to herself, 'but the flowers which must be picked to keep the bushes healthy and productive, what of them? They must not be wasted. Oh! I know,' she said, after a minute's thought, 'I will tell Mrs. Scottmann and Mrs. Wharfington to help themselves, and, gracious knows, they will pick them close enough.' She told these ladies (who also had gardens) to help themselves to her flowers while she was away.

"One day, the ladies went in Mrs. Scottmann's electric cab to the beautiful garden and entered by the wrought-iron gate opening on the side street. They carefully closed the gate, and almost immediately the wan faces of two ragged alley-children appeared between the bars. In silence, their longing, lack-luster eyes looked upon the scene. Both

ladies were richly dressed, and the alley-children thought the ladies were quite as beautiful as the flowers. Finally their curiously wrought ornamental baskets were filled with beautiful flowers, and Mrs. Scottmann and Mrs. Wharfington started for their handsome homes, thinking how lovely their flowers would look upon their mantels and tables. They saw the wan faces between the gate bars, but upon their approach the faces disappeared.

"The ladies placed their baskets in the cab, and were about to drive away, when they remembered they had left their silver scissors used for cutting the flowers, on the seat near the fountain under the pergola. Neither was pushed for time, and both re-entered the garden to get the scissors, leaving the cab door open. The alley-children returned and glanced into the cab. They viewed the handsome, rich, blue interior for a moment, then each snatched a rose and fled down the alley. A policeman witnessed the theft, but he simply looked away. The rich women returned, but did not notice that two of their roses were gone. They could not possibly miss them where there were so many.

"The alley-children ran directly home to the bare room where their mother lay upon a bed of rags, dying of consumption. 'See what we have brought you, Mamma,' said the girls. 'How beautiful!' said the mother in a whisper; 'but where did you get them?' 'Two lovely ladies, who had each a basketful, gave them to us for you.' 'How kind,' whispered the mother; 'did you thank them?' The girls placed the roses in a small, cracked pitcher at their mother's bedside, and she greatly enjoyed their beauty and their fragrance. And just as she fell into her final sleep, the ladies who sent the roses appeared to her as two angels in her vision."

This method of approach we think is doing good. We are getting the thought into people that something must be done in regard to dealing with these certain problems. That is the first idea that it seems to me should be executed. That was the whole object of this series of papers.

We have more of them, but I shall not burden you, but shall ask you to think of this point: That diet has a good deal to do with the perpetuation and the transference of the sexual plagues. I know it from experience, such as no one except those can know as have either been specialists in this question or been assistants to one, as I have. A young man, a bank cashier, of good birth and with pure blood in his veins at one time, came to our office with a sexual disease. My principal said, "How did this happen?" "Oh," said he, "don't ask me." "But I want to know," he said, "that I may have better information in regard to it. He said, 'I was down town. We had a great feast, wine, cocktails, champagne, thick beefsteak, a whole list of stimulating foods,

and then there came up some stories of a sexual nature. Had I stayed at home and read and had I taken a frugal meal at night, I would not have found myself sexually stimulated. It was the stimulation and that association that put into my mind the sexual act, and I went off where I should not have gone." And he said, "I was a fool." He was a fool and he knew it, but you see how he was influenced.

So it is true that if we could but change the diet of mankind, abolish stimulants of all kinds, keep them out of the human body, it would be best for the brain and for our brawn, best for our success—to keep stimulating foods away, and keep drugs out of the human body. Surely this appeals to everyone. But the idea is abroad that we must have meat. We know what resistance against meat will do when we look at the numerous patients who come here. We ask them to try it, but the cry is, "Oh, you are a crank." But experience shows that diet has something to do with it. We must reform our diet. The great work that is being done by this great institution, in teaching people how to keep themselves healthy, is working against the sexual plagues, which have so terribly cursed us.

I doubt very much if the discovery of salvarsan, or 606, for the cure of syphilis will be beneficial to the race. I doubt it exceedingly. Several men were at a club. They asked a doctor who was present, "Doctor, is this a sure cure?" Said he, "I believe it is." Then they said, "Why take care of one's self?" But, they don't get a cure. The syphilitic poison has its effect finally upon the race, degenerating it slowly, ever so slowly, degenerating the germ plasm that is carried by every human being. What effect will this other poison called "606" have upon the human race? It, too, is a poison. It kills the spirocheta, the animal, for it is an animal, a protozoon that causes syphilis. It kills it, but how and with what? The poison of the spirocheta is not neutralized. The organism itself is destroyed and it makes no more syphilitic poison; we have introduced another poison, so I doubt very much whether this discovery will be beneficial to the race. That it will be beneficial to individuals is certainly very plain to us all.

My whole refrain is that of prevention. At the risk of your having read it, I want to read an Indiana poem, and then close. It is prevention, not cure, to which we must give attention. We must finally let all mankind know that to be sick is a sin. Of course it is. I have been sick, and I know how I became so. When we get typhoid fever, we know why. An individual can protect himself absolutely against typhoid fever; an individual cannot protect himself absolutely against consumption, but he can do a great deal, and the state must do the rest. Let me read this poem to close. As I said, it is an Indiana

product, and I do not want you to forget that, for I am proud of it. It is entitled "The Fence or the Ambulance," and has been printed abroad.

FENCE OR AMBULANCE

'Twas a dangerous cliff, as they freely confessed,
 Though to walk near its crest was so pleasant;
 But over its terrible edge there had slipped
 A duke, and full many a peasant;
 So the people said something would have to be done
 But their projects did not at all tally.
 Some said, "Put a fence 'round the edge of the cliff,"
 Some, "An ambulance down in the valley."

But the cry for the ambulance carried the day
 For it spread through the neighboring city;
 A fence may be useful or not, it is true,
 But each heart became brimful of pity
 For those who slipped over that dangerous cliff,
 And the dwellers in highway and alley
 Gave pounds or gave pence, not to put up a fence
 But an ambulance down in the valley.

"For the cliff is all right if you're careful," they said,
 "And if folks ever slip and are dropping,
 It isn't the slipping that hurts them so much
 As the shock down below when they're stopping;"
 So day after day as those mishaps occurred,
 Quick forth would these rescuers sally,
 To pick up the victims who fell off the cliff
 With the ambulance down in the valley.

Then an old sage remarked, "It's a marvel to me
 That people give far more attention
 To repairing results than to stopping the cause,
 When they'd much better aim at prevention.
 "Let us stop at its source all this mischief," cried he,
 "Come, neighbors and friends, let us rally;
 If the cliff we will fence we might almost dispense
 With the ambulance down in the valley."

"Oh, he's a fanatic," the other rejoined,
 "Dispense with the ambulance? Never!
 He'd dispense with all charities, too, if he could,
 No, no! We'll support them forever!
 Aren't we picking up folk just as fast as they fall?
 And shall this man dictate to us? Shall he?
 Why should people of sense stop to put up a fence
 While their ambulance works in the valley?"

But a sensible few, who are practical too,
 Will not bear with such nonsense much longer;
 They believe that prevention is better than cure,
 And their party will soon be the stronger.

Encourage them, then, with your purse, voice and pen,
 And (while other philanthropists dally)
 They will scorn all pretense and put a stout fence
 On the cliff that hangs over the valley.

Better guide well the young than reclaim them when old,
 For the voice of true wisdom is calling;
 To rescue the fallen is good, but 'tis best
 To prevent other people from falling;
 Better close up the source of temptation and crime
 Than deliver from dungeon or galley;
 Better put a strong fence 'round the top of the cliff,
 Than an ambulance down in the valley.

Prevention is the thing, not cure. We are obsessed with the idea of cure. Let us get away from it. Let us tell those who are sick, A law has been violated. We are all obsessed with the idea of keeping men out of hell. Let us reverse this, and by prevention, keep hell out of men.

A WOMAN'S PROBLEM

(A Special Address to Women.)

DR. CAROLYN GEISEL, Shorter College, Rome, Georgia.

What I have to say is just this, to remind you, my sister, that he who spoke before me said it is a man's problem. Well then, if the problem be a man's—hear me with patience when I say it in my own way—if the problem be a man's, why then it is all ours, for the man is ours. He is yours, because you bore him; he is yours because you loved him; he is your son first, lover afterwards, your husband by and by; he is yours. This problem is woman's, because the man, your son, was yours by the gift of Almighty God.

What are you going to do about it, then? Have you a part in the solution of the problem? I said the problem was yours. Wait a minute then. First, as individual woman, can you help solve the problem? If you can, how? By standing straight, but that does not sound like much. Let me emphasize this. Are there some things always right—are there? Oh, of course. Are there some things always wrong? Of course. Then hear me. As an individual woman, you can help solve the problem by standing straight every single time, no matter what the occasion, for the thing that is always right. Oh, you waver so! I, you, we waver so! We believe deep down in our souls that something is wrong—this thing that someone is talking about; it is wrong. In some little corner, when a group of some kind of people are talking about it and condoning it as though perhaps it wasn't so wrong after all, we keep still. Ah, you have lost your influence, and your influence

as an individual from that time is naught on that point. Stand square, and say a thing is right when it is right, and say it is wrong when it is wrong.

I am saying to you, then, be strong! And I have backing from a Holy Book when I bid you be strong. Read it yourself, the commandments of the living God. Hear me read it to you. "Be strong, quit you like men." To whom did He say that? Oh, to the men, of course, and to us who are mothers of men. Be strong, and quit you like men---if you would be the mother of a man and not the mother of a degenerate. You can stand squarely for a thing that is always right and squarely against the thing that is always wrong, by your actions more than your words.

Now, come on! Is your door ever opened to admit a man whose character you know is sullied? Were you ever guilty of inviting into your home the man of reputation because of money, the man of so-called family standing, the man of position or influence, or because of money the man who had trailed his soul to shame in the red light district? Were you ever guilty of that? Then you did not stand square. If you ever admitted to your parlor by invitation or consent, whether invitation or no, the man whose reputation was to your knowledge sullied or unclean, then you have not stood true to the things that you have applauded at this Conference. If you ever intend to solve this problem, which is the greatest, almost the greatest, of the race betterment problems, be true to the thing that is always right, and stand always against the thing that is always wrong. That means, shut your door in the face of the unclean man, no matter how much money he has. Will you do it? That's another thing. The Race Betterment Conference is of no purpose whatever if it bringeth not forth results, and if you go back to your homes today to do what you have always done---some of you have always done right, God bless you, but some of you have been uncertain in your standing for the things that are right---if you go back to your homes then and continue to be uncertain, I say the world will get no benefit from your delegateship to this particular Conference.

Hear me then! He who comes into your presence accompanied by the enameled-faced woman of uncertain reputation; he who comes into your presence and comes under your roof accompanied by such a one, what will you do with him? What will you do with him?

Will you say, as I heard a woman say a few days ago, "Oh! a man must drink a little for the sake of company." Now are you as uncertain as that, believing as I think you do, that alcohol is the tap root of this fearful problem of the social evil?

What about the places to which you go? Young girls, I want your

attention. Young women, I am talking to you now. What about the places to which you go? What about the company you keep? What about the man whose invitation you accept?

Oh! closer yet, what about the color of your hair? Peroxide? Stand squarely there, if the thing is not right, if it be not right, against putting on the label of sin. If you put it on, you are inviting disaster. What about the color of your cheek? Unnatural, or is it the badge of the underworld? What about the arrangement of your gown? What about it? He said, he whose quiet voice you listened to with such rapt attention, standing here but a little while ago—he said, the indecent gown of the twentieth century woman drives many a man to the place that is questionable. Hear me, my sisters, hear! You know, you do know, that the fashions of today are not of your seeking. You did not make them, but I call upon you in the strength of your united womanhood, that we arise in our power and demand that decent clothes be put upon the market for us to wear, or else that we remain in our homes until we can get gowns that will be seemly. A little matter, is it? Not a little matter, if by the mighty power of suggestion, that hardly a man can resist, he is driven by it—that power of suggestion—to the place that is questionable, the results of which are not questionable.

Next, then, let me ask you to think of yourself as a business woman. Oh no, I didn't mean in the shop, I am not going to take time for that. I am not thinking of you as women in commercialism, but as just plain women, that's all. I want you to think of yourselves just for a minute as being business women. Oh, I fancy you would like to fling back to me that you said you were not going to talk business. Ah! I mean the business which we call the majestic, holy, blessed, sacred business of motherhood itself. Oh, my sister! Nothing, nothing in all God's world should appeal to you as the helpless babe that lies against your breast! Oh, how I love it! I was with a woman a few days ago who had her baby lying across her knee. I said, "Do you love it, honey?" And looking into my face, her own radiant with a light indescribable, she said, "Love it, love my baby?"—Then, taking a very deep breath, she said, "I love it so that if Christ had not gone to Calvary to give my boy life eternal, if by so doing I could secure life eternal for him, I would go to hell that he might go to heaven." "Oh," I said, "daughter, that would hardly be love. The real kind of love for your baby," I said to her, "would be to take his little hand in yours and go with him to heaven. That is mother love." I want to ask you to consider yourself now. I am asking you to see how you can solve the problem. Consider yourself now as a business woman in the business of raising a man-child. Can you raise this man-child so he will live

with God through all eternity? Have him give you the first seven straight, uninterrupted years of his little life, hold him to your breast, keep him close to your knee for seven years, then hear me! I believe I am speaking the truth, if you are true to God Almighty and to Jesus Christ, His Son, your boy will be safe through all eternity. I honestly believe it. I don't believe that my Lord died in vain; I don't believe that salvation is of no avail. I believe with all my soul that the knowledge of Jesus Christ saves from sin. It is written in Matthew. Read it yourself. "And thou shalt call his name Jesus: for He shall save His people from their sins."

Now women, close attention for just a minute. How is a boy to be saved for all eternity or kept from falling in the world if he knows not Christ? I cannot tell you how the blood of Jesus Christ saves, cleanses from sin; I cannot tell you how the knowledge of Jesus Christ keeps from sin. Lots of things I don't know. I don't know how breathing air into your lungs keeps you alive. I know it does, but I don't know how. Explanation does not explain it all. I know that, by some mysterious alchemy of a power that is divine, the knowledge of Jesus Christ does keep from sin. But how is the boy to be kept who is not introduced to his Saviour? Then I am asking you to be business women. If the blood of Jesus Christ will save your son from the stain of sin, then give him Christ. Talk about 606 for your boy? But his body is stained with sin! Send him to Vienna that he may be treated by 606? I don't believe that there is no remedy for syphilis. There is a remedy, the remedy that God sent. He came. I am not even talking religion, I am talking plain business with you. It is not so much health certificates; it is not so much a remedy for syphilis that we need, it is God and His Son, Jesus Christ. I am not trying to preach, I am only trying to talk business. The Catholics know that for truth. They say, "Give me the boy till he is seven years." Then let me say, "You keep your boy for seven years and let him get acquainted with the Holy Book and his mother's God; let him see his mother on her knees, and you have got your boy and Satan cannot get him." Let me say it now from someone wiser than I by far, "If virtue be in the blood—and that is the way to get it in the blood—if virtue be in the blood, vice is not so much alien as it is impossible." What you want, oh, my sister, you who are a mother, what you want for your boy is to make vice impossible to your baby when he becomes a man. The impossibility of vice is the thing you want.

Now come away from that, from the child on your knees, nursing from your breast, from the salvation and knowledge of salvation as it is in Christ Jesus—come away from that now to your business, again, your business of home-maker. Let me repeat what Doctor Hurty

said, "I am speaking to you now wholly as a physician." For seventeen long years I have had the great honor, blessed privilege indeed, to be associated with this wonderful institution. The most of you know that I spent some years of my life in rescue work away down there in the slums. The harlot women who presided over what might well be called the "little hells," wherein were girls exploited, as Dean Sumner said, "for the mad passions of indecent men"—those women said to me over and over through the years that I did rescue work, "Oh, we couldn't keep our girls here if we didn't feed for it. We always serve plenty of meat three times a day, always, and we always use coffee and we always use pepper." I am not saying that because you are at the Sanitarium. I am talking to you as individuals, out of my experience as a rescue worker and a medical woman. I want to tell you that is true. They could not keep them down there if they did not feed for it. The harlot who presides over a house of sin knows her business, the business of sin, and feeds her victims to keep them in the business. No, that is not a fairy tale. Not one, but dozens of these women told me that. Then let me say to you, You are not in that business, but you are presiding over a home, not a house. Why not study your business. You are feeding to keep men safe in the world and to get them into the Kingdom of God, and why not study how to feed them so that their feet may take their hold of the straight and narrow way and lead them up to His Kingdom? If it be true, and there is absolutely no longer question about it, if it be true that some sorts of food waken the very demon of passion in human life, and I say it is true, it is your business to find out what those foods are and never to serve them on your table. Study your business. Then, you know—and it is quite well proved—that vigorous, physical exercise out in the open air quiets the hot blood of the individual. Oh, my sister, when by and by, the roll is called up yonder, and the hard task of rearing a family and keeping them from sin is all over, and you are up there close by the great white throne of the living God, and your children are with you, won't it be worth all the price you paid, if the price meant effort? Won't it? Ah, and what of the other? If some day she comes back to you with her baby in her arms, all despoiled and broken, because of the shame of her life, the awful mistake of her marriage, the heartbreak is yours and, in a way, you will almost deserve it, if you have neglected your business.

Something more. And this is my final word—it is about our position as citizens in the United States of America. You say, "Why, we are not citizens." But it says so in the constitution, anyhow, and I am just waiting until somebody has courage enough to test the con-

stitution of the United States. All persons born or naturalized in the United States are citizens; it is so in the constitution. Well, aren't you a person, my lovely? Then you are a citizen. Are you ready to do your duty as a citizen? Are you? I believe in peace, but what of him who says peace, peace, when there is no peace? Is there peace in your woman's eyes tonight, you who have listened to the tragedies that have been detailed from this platform concerning the white slave traffic? Is there peace in your soul? I sat there just last night and groaned aloud while they were talking of the white slave traffic. I sat there this very afternoon and could hardly keep my place while they talked again of the white slave traffic and little women, our sisters, imprisoned through a nameless torture of shame. I am talking to the citizens of the United States of America. Back in the yesterday, not so very long ago, not much more than fifty years, our daddies took off their coats and went to war, went to war to strike the shackles of slavery from the wrists and ankles of the black men. What sort of slavery? A slavery to honest toil, a slavery to clean manual labor. And no one lifts a hand to strike the shackles from the souls of helpless little white women. I don't know, I don't know, but sometimes there comes into my soul such a cry of rebellion against this fearful outrage to our womanhood, as well as to our liberty and peace, that I would God would call me to take a sword in hand and to lead you, a literal, veritable army, to make war, literal, actual war, until this thing be stamped out. Vicious, am I? Were they vicious who would free a black man from labor? Sensational, am I? Was he sensational, who declared that all men are born free and equal, with the right to life, liberty and the pursuit of happiness? Was he sensational? Then let me say it again—all women under God were born free and equal, and because of the precious blood of Jesus Christ, we are called to liberate our sisters. "But," you say, "Doctor Geisel, you really don't mean it. You wouldn't have us go to war?" Hear me, then. There may be a peaceable way out. There will be thrust into your hands before very long, you cannot escape it, that little piece of paper called the ballot. It is as surely coming as tomorrow is coming, wanted or not. It doesn't matter—it is coming. Will you use it for the liberty of your sisters? Or will you say, "Leave politics to men." If you must go into politics to liberate helpless little girls who are enslaved now, then do it. Do it as quickly as ever you can. Done now, am I, when I have asked you to bow your heads where you are, and let your hearts say with Kipling:

"Lord, God of Hosts, be with us yet,
Lest we forget, lest we forget!"

THE RELATION OF EDUCATION IN SEX TO RACE BETTERMENT

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By race betterment we mean the increase not only of the physical health and efficiency of the race, but also of the psychical solidity and nobility of the race. The first question which one naturally asks in this connection is, "How may this race betterment be accomplished?" In seeking an answer to this question, we turn naturally to the lower animals and ask how they are modified in race development.

Those species of the lower animals that have been most closely associated with man—for example, the horse, the ox, the sheep, the hog and the dog—have been very greatly modified and very greatly improved in modern times through the influence of factors which are very largely under the control of man. As we classify these factors of race betterment among the lower animals, we find that they naturally fall into two groups: first, environment; second, heredity. These two factors are the universally recognized biological factors of race change. It is through them that all changes in living things have been accomplished as the millenniums of the past have rolled by.

In comparatively recent times man has consciously and designedly modified and controlled both the environment and the heredity of these domestic animals with which he is so closely associated. He has secured for them the finest possible heredity through careful choice of the animals who were to breed the young. He has insured for them the most hygienic possible conditions from the day of the birth of each animal until its complete maturity. It has been kept in clean, comfortable surroundings and provided with wholesome and nourishing food. The result of this care in the domestic animals has been to produce horses, cattle, sheep, and hogs so far superior to those that existed in the days of our grandfathers that they could be classified almost as different species.

Thoughtful men are now everywhere asking if it is possible to accomplish for the human race changes anything like as profound as those already accomplished for the lower animals. If such a change is possible, it is generally agreed that it is possible only through the combined influence of the two universally recognized biological factors, —*environment* and *heredity*.

The various conditions of environment are largely comprised in the more familiar popular term, *hygiene*, while the essential elements in heredity are practically covered by the popular term, *eugenics*. We must therefore look toward *hygiene* and *eugenics* as affording our sole hope for race betterment.

Now, hygiene accomplishes two things. These are in two directions. They may be classified as toward the positive, on the one hand, and toward the negative, on the other—or, perhaps better, toward the positive, on the one hand, and away from the negative, on the other. In other words, hygiene seeks to accomplish certain things that are agreed to be good, and to avoid certain things that are agreed to be bad. It seeks to promote, in the individual, habits of life whose influence is to steady, to stimulate and to strengthen both physical and mental powers. On the other hand, hygiene seeks to avoid, in the individual, habits of life whose influence is to derange, to deplete, and to destroy.

In a similar way eugenics presents a double phase: namely, a positive and a negative. First, it seeks not only to promote the propagation of the fit, but furthermore to advance the efficiency of the fit. Second, it seeks to avoid the propagation of the unfit. Among the domesticated animals, eugenics is accomplished easily by the arbitrary will, guided by judgment and experience, of the owners of these lower animals, so that the mating of these animals is more or less absolutely controlled by the will of the owners. In the human species, no such arbitrary control is possible even if it were admitted to be advantageous. What is true of the control of eugenics is also, in a measure, true of the control of hygiene. The state and the municipality may arbitrarily quarantine such contagious diseases as scarlet fever, smallpox, etc., as it may arbitrarily refuse marriage license to the seriously diseased and palpably unfit. To such an extent the interference of the state will be generally welcomed, but we must recognize at the start that the influence of that interference at the very best can accomplish but little, important though that little may be, toward general race betterment. It will decrease the percentage of imbeciles, insane, criminals and degenerates, but important as this is, it can hardly be looked upon as accomplishing race betterment; at best it can only stay race degeneration. *Race betterment or actual improvement of the rank and file of the race in physical and mental quality can only be accomplished through positive hygiene and positive eugenics.*

But positive hygiene and positive eugenics can be brought about in the human race only through education. Education should lead the youth to adopt a régime of hygiene that would develop in him the highest possible degree of physical and mental efficiency. Education should also lead him to choose as his mate a life partner who possesses similar physical and mental qualities, besides possessing a blemishless heredity, as good as we will assume his own to be.

The study of social conditions reveals the fact that a large ma-

jority of those conditions which are inimical to race welfare are the result of ignorance and of distorted mental attitude regarding the sex life. These distorted mental attitudes can only be rectified and this deplorable and dense ignorance can only be dispelled by education. Those who have given attention to this problem of education agree with one accord that the distorted mental viewpoint possessed by so large a proportion of the population dates back to early childhood and is to be attributed solely to the fact that parents do not implant in the minds of their children the wholesome and inspiring viewpoint of the great fundamental truths of life.

The first lesson regarding life should be taught by the mother to her questioning child. It is practically a universal custom of childhood to ask the mother how the baby came, or where they got the baby. The thoughtful twentieth-century mother accepts the question as indicating the psychological moment to teach her child the first great lesson and to give it a wholesome viewpoint regarding life. So she answers the question of her child truthfully and not as the mothers of a generation ago did, through evasions and fantastic fictions.

The twentieth-century mother recognizes the fact that when her child comes asking this perfectly natural and perfectly fair question, she has one of the great opportunities of motherhood—namely, an opportunity to implant in the mind of the child the feeling that motherhood is a sacred relationship and the mother a sacred object. One twentieth-century mother answered her child's question in these words, "Baby sister came out of mamma's body. She was formed within mamma's body. She was formed from materials that were drawn out of mamma's blood; and that is the reason why mamma's cheeks are so pale and mamma's hands so thin and white." The little boy's eyes opened wide with wonder. This story, told in such a matchlessly simple way, was incomparably more wonderful to the child's mind than the stork story would have been and he looked in his wide-eyed wonder from mamma's pale face down to little baby sister—back and forth—trying to comprehend it all. Then he asked this question: "Mamma, was I formed within your body, too?" And the mother answered, "Yes, my boy, you were and that is the reason why mamma loves her boy so—because she gave her own life's blood for him." The little boy's wide-open eyes now took on a far-away look and he seemed to be trying to comprehend the great truth of mother sacrifice. Presently, he seemed to catch a glimmer of the truth and his eyes welled full of tears as he turned toward his mother and threw his arms about her neck, saying, "O, mamma, mamma, I never loved you so much before."

When the mother in whose experience the above episode had occurred, related it to the writer, he asked her what her boy's attitude had been toward motherhood and she replied, "Since the day I told him how baby sister came and how he had come, he has seemed to look upon motherhood as a sacred relationship." It is the uniform and universal testimony of parents who have been telling the story of life in this frank, sympathetic, earnest and serious way to their children in answer to the instinctive questions of childhood, that the children accept these truths as sacred, that they are drawn into a much closer and confidential relationship to the parents, that they are protected against contamination of the mind by associates of low ideals, and that they are also protected against being misled by older, low-minded associates into deleterious and depleting personal habits.

While, as intimated above, the primary responsibility for this teaching in early childhood must naturally rest upon the mother, a responsibility no less real and serious, though less urgent and immediate, rests also upon the paternal ancestor and the teacher of the young child. The father should reinforce the mother's teaching and, in the same spirit in which the mother tells the story of life, the father should confirm it whenever the child comes to him seeking confirmation. In no way can the father more positively teach the sacredness of motherhood to his children than by uniformly showing toward the mother the spirit of affection and tender solicitude for her well-being and happiness. Such an attitude speaks much more loudly and impressively than any words which the father could utter, his personal feeling of the sacredness of motherhood. The children instinctively catch the spirit of the father and it confirms and fixes indelibly the attitude which the mother herself implanted by her story of life.

The teacher of the child, before that child reaches the thirteenth to the fifteenth year, should not be called upon and should not feel a responsibility for imparting to the child these great fundamental truths of life which it is the inherent right of the child to hear from the lips of his parents and which it is the natural privilege of the parents to impart direct to their own offspring. However, the teacher does carry a very definite responsibility and one which may not be evaded. This responsibility comes very naturally with the teacher's relation to the home. When we consider that the school is an extension of the home and the teacher, so to speak, an extension of the parents, or, we might say, "*vicarious parent*," it is easy to understand how natural and essential this responsibility is. The teacher is responsible for two very definite things in the education of the young child between his fifth and his fifteenth year. First, the teacher should show the same vigilant watchfulness that a mother shows to protect

the child against the deleterious influence of the occasional pupil that is found from time to time in every school, namely, the pupil whose home influence has been weak or bad and whose associations have perhaps been vicious. Such a child is quite likely to be physically precocious and mentally backward and thus be thrown into association with children from one to three years younger than himself. The influence of such a pupil in a school may be most unfortunate and it requires the greatest vigilance and tact on the part of the teacher to protect the children against such an influence. First, then, the teacher must show all vigilance and tact in protecting the children of her school against bad influences. As a rule, this can perhaps be best accomplished through such an administration of school sports and recreations as fully and completely to occupy the minds of the pupils during the hours when they are on the school grounds but not in the school room. Thus, again, turning the mind toward the positive and away from the negative.

Second, the teacher should accept every opportunity which presents itself to implant in the mind of the child, or we may perhaps better say, to confirm in the mind of the child, the same wholesome attitude regarding the sacredness of life and the sanctity of home relationships which she herself holds in her own mind and which she may assume has been implanted by the parents in the minds of the children. Many an opportunity will be offered the teacher for dropping a word in harmony with this mental attitude in the course of the nature study work. Even in the kindergarten, it is a very common thing for the teacher to have a little family of baby kittens, of baby rabbits, or baby birds, for the children to take care of and to love. While the thoroughly equipped and tactful teacher, who understands the psychology of youth, will not make opportunities repeatedly to impress "morals" about maternal and filial relationships, the teacher may, not infrequently, drop some remark that leaves an indelible impression upon the child regarding these relationships. The social ethics of the robin's family, housed in a nest that may be watched from the schoolroom window, may set forth in compelling conviction the whole law and gospel of social ethics of human society. While, in this teaching, we must take care not to attribute to the robins a degree of consciousness and discernment commensurate with that of the human species, the most conservative biologist must admit that the same kind of sentiment which prompts parental care on the part of the human mother prompts it on the part of the robin mother—that maternal altruism in the human species, while possessing a greater element of emotion and a smaller element of the automatic, is, from a psychological standpoint, the natural and necessary out-

growth in man of the same thing which prompts the sacrifice and love of the robin mother.

The *Nature Teaching*, therefore, in the public school affords the teacher an opportunity to make an atmosphere about life that impresses the child with the sacredness of all life and with the special sacredness of human life and of human parenthood.

We have now set forth in sufficient detail the character, if not the whole content, of the teaching regarding the sex life that the child should have up to the threshold of adolescence, which may be taken as about thirteen years for the girl and about fifteen for the boy. Just before the crossing of the threshold from girlhood into womanhood, or from boyhood into manhood, the first lesson regarding the individual sex life should be taught to the girl by her mother and to the boy by his father. This first lesson is the lesson of womanhood or of manhood respectively.

I. WOMANHOOD OR MANHOOD

The parent should seek a favorable opportunity for a heart-to-heart talk with the youth who is approaching the threshold of adulthood and should explain what it means to grow into womanhood or manhood as the case may be. The mother, for example, explains to her daughter the phenomena of physical and mental development of the girl into the woman and pictures womanhood in such vivid and glowing terms that it fills the whole soul of the girl with a consuming desire to grow into the highest type of womanhood. Then the mother explains that this wonderful development of the physical, mental and spiritual qualities of womanhood is dominated and controlled by a wonderful and magical substance that is prepared in the ovaries of the girl, absorbed into her blood and distributed throughout the body from the threshold of womanhood, throughout midlife and until the beginning of old age. The natural influence and result of this story of womanhood, told to the girl by the mother in the same spirit in which she, years before, told her the story of motherhood, is to impress upon the mind of the girl, so strongly that it is never effaced, the feeling which amounts to a dominant conviction that: **HER PERSON IS SACRED TO HER WOMANHOOD.**

This teaching fortifies the girl absolutely against the malevolent influences of low-minded, older girls with whom she might, by some ill chance, be thrown into association in the school.

In a similar way, the father should tell his twelve-year-old boy the story of manhood and arouse in the youth a consuming desire to grow into the highest type of manhood. As a part of this lesson, he should reveal to his boy the new-found truth that the development of manly

qualities is caused and controlled in body and mind through the influence of an Internal Secretion prepared by the testicles, absorbed into the blood and distributed throughout the body. This substance, carried into the muscles with the blood, causes these muscles to grow big and hard, carried into the brain and spinal cord, lights the fires of manhood in the young man's brain and these fires shine through his eyes and illuminate his face. When the boy realizes that a substance made in his testicles holds the secret of manhood, he is fortified against any evil influences to which he may be subjected by his associates. A boy thus instructed is absolutely protected against being misled by low-minded associates into destructive and depleting habits. He learns that great lesson of life: **HIS PERSON IS SACRED TO HIS MANHOOD.**

II. PERIODICITY

At the time that the youth crosses the threshold from youth into womanhood or manhood, respectively, the parents should impart the second lesson concerning the sex life. This second lesson consists of an explanation of the *periodicity of the sex life* upon which the youth is entering. It is little short of a tragedy in the case of many a girl to enter upon womanhood with no explanation of the experiences to which she is introduced incident to this new phase of life. Many questions crowd into her mind, demanding answer. When no answers are forthcoming, we cannot wonder that her heart is filled with rebellion at life and its unexplained mysteries. Society, therefore, demands that mothers answer frankly the questions that come into the minds of their daughters at this period of life. The mother will therefore explain to her daughter adequately the periodicity of the sex life and will further explain that this experience to which the girl is introduced is *her Creator's preparation of her for future motherhood*. This explanation will control the girl's mental attitude toward womanhood. Instead of rebelling against the experiences of womanhood, she exults in its wonders and its possibilities.

In a similar way, the father explains frankly to his boy the periodicity in his life and, in thus explaining, forestalls the worry and dispels the fear that would surely come but for the explanation.

III. SOCIAL RELATIONSHIPS

Early in the adolescent period, say the fifteenth or sixteenth year for the girl and the sixteenth or seventeenth year for the young man, there should be some very definite instruction on the part of parents regarding social relationships. This lesson might very properly be given when fifteen-year-old Margaret and seventeen-year-old John are

seated with mother and father about the family hearthstone. It will be a very wholesome experience for John to hear his mother instructing Margaret regarding the social relationships, because he is just beginning to enter with zest into society.

The mother will explain to Margaret that in all her social relationships with her young gentlemen friends, she should have a jolly good time, but should permit *no familiarities*. The mother may well explain to the daughter somewhat in detail the reasons why the parents, from their broader experiences in life, make these rules for their children, and explain that it is not to debar the children from the enjoyment of any legitimate pleasure; that these rules are given rather to insure the greatest ultimate joy in life.

As John hears this instruction from his mother to his sister, he very naturally thinks to himself, "My girl friend, Jennie, must have received just such instruction from her mother, so it's up to me, if I am to be the chivalrous young man that I shall not be ashamed of, to treat my girl friend, Jennie, in the way that I would have the other fellow treat my sister."

The parents explain to their children that such common familiarities as putting the arm about a girl's waist or kissing her—familiarities which many young people look upon in a frivolous way and carry off with a jest—are unfortunate and dangerous familiarities because, harmless and innocent though they may be in themselves, they break down the delicate self-respecting reserve of the girl and in many cases, by insidious advances, lead the way to other familiarities which eventually compromise the dignity of the girl's womanhood, perhaps even compromise her character. The young people should have it very clearly set forth that the only absolute safety for the girl is not to permit the beginning of familiarity.

Let the young people be taught that *the embrace is Society's Sacred Symbol of Protection* and that *the kiss is Society's Sacred Symbol of Affection*. Once that lesson is clearly impressed, we may trust the young people to guard even the threshold of familiarity.

Young people of this age are living over again the impulses and the instincts of Chivalry. Instinctively, they acquire a code of honor inherited from days of Chivalry: *The honor of woman and a square deal among men*. Every knight stood ready to drop in his tracks, shedding his blood or laying down his life to enforce this code of honor. So, the youth of today can be very easily inspired to adopt this code of honor and to be ready to fight for it. Most of his instruction in this lesson No. III should be positive in its character and should seek to inspire in the youth the spirit of chivalry and of altruism.

The negative side of Social Relationships should call the attention of the young people to certain unfortunate things in human society that must be avoided. Departure from the high ethical standards set forth above is uniformly punished. This natural retribution may take various forms, but as the laws of Nature are immutable, so the punishment that Mother Nature metes out for the one who breaks her law follows absolutely. One of the forms is found in those contagious diseases which are disseminated largely through illicit social relationships. Enough should be told every young person by mother and father so that the daughter and the son will realize that the breaking of Nature's laws is sure to bring a punishment in some form. This method of instruction puts the matter in its proper perspective and links it up not only with the physical and intellectual life, but also with the moral life, thus being an important element not only in the formation of character, but in the solidification and fortification of character.

IV. EUGENICS

The relation of education in sex to eugenics is a most important one. As already intimated above, in the introductory paragraphs, state laws guarding the licensure to marriage may help some in eugenics, but at most, little can be accomplished through state intervention. Most that may be hoped for in race betterment through eugenics must be accomplished through education. This education should begin in the later teens, in the case of both the young woman and the young man, and, like the other lessons in life, should emphasize, first of all and most strongly, the positive side, though not omitting the negative side.

A—POSITIVE EUGENICS

That young woman who has come to the estate of ripe young womanhood at twenty-one to twenty-three years of age, having learned all the lessons set forth above from the lips of a loving, sympathetic, clear-visioned mother, having in many a heart-to-heart talk with mother received full and adequate answers to the hundred and one questions that crowd into the girl's mind, is in a mental attitude toward mother easily to be led and guided as to her choice of a future life partner. We may also assume that such a young woman sees in her father and her brothers men who help her to acquire a high ideal of manhood. Mother and daughter will discuss manhood and the elements of ideal, perfect manhood—perfect physically, mentally and morally. A girl who has acquired such a high ideal of manhood can be trusted not to fall in love with and marry a man who

falls far short of this ideal. Of course, we must recognize that "love is blind," which is simply another way of saying that a young woman may be led to ignore many a shortcoming in the man who showers attentions upon her and protests undying love and volubly promises to reform. The days, however, of the ill-advised mating of a perfect woman with a grossly imperfect man, with the hope of overcoming his imperfections, are rapidly passing. Her instruction in the elements of manhood enables her to analyze, and she instinctively stops to analyze before she permits her heart to go out to a man.

In a similar way, the young man should be taught to recognize ideal womanhood and, having made himself worthy of a perfect woman, to look for one for a wife.

B—NEGATIVE EUGENICS

The preparation of young people for a wise choice of a life partner is not complete until they know some of the things assiduously to be avoided in this choice of a life partner. Every young person should know that there are certain serious impairments, physical or mental, that may be transmitted from parent to child, and that there are other such impairments that positively will be thus transmitted. Among such impairments must be noted INSANITY, FEEBLE-MINDEDNESS, DEGENERACY, CRIMINALITY, especially when such serious impairments are noted to occur in successive generations, —several individuals in each generation. Even though the individual in question may seem to be quite normal, if he has two or three impaired brothers and if one of his parents and perhaps one or two of their brothers and sisters and grandparents, with great uncles and aunts, have the same impairment sent down two or three generations and perhaps more, then the individual in question would make a dangerous life partner, because without any reasonable doubt the germ-plasm of the individual has been impaired, and his children would be very likely, and some of them certainly, to show the impairment in some degree. If, now, there is a taint on the side of the mother, as well as on the side of the father, it is hardly likely that one of their children would escape being marked in some way with one or the other or both of these family taints.

Another serious impairment that must not be omitted is venereal infection or hereditary venereal taint. Every person choosing a life partner should know about the possibility of these above-mentioned taints and should avoid them as they would avoid poison.

Some have asked how this information will influence a young person in the choice of a life partner and will it not destroy sentimentality and old-time love. It is to be hoped that instruction in

eugenics will destroy that sentimentalism which leads a woman deliberately to marry a man who is absolutely unworthy of her and can only bring disease, degeneration and death, and that maudlin, so-called love which is blind to imperfections that are so glaring that they might be seen through opaque lenses. What instruction in eugenics will accomplish is *to establish psychic inhibition* at the threshold of love, so that on meeting a young person of the opposite sex, however attractive and agreeable that person may be, the one in question does not at once go out in unquestioning, blind love-at-first-sight that was so common in the days of our fathers, but will experience a "psychic inhibition;" in other words, there will be an instinctive holding back or hesitation on the threshold of love to ask if all within and beyond is favorable. Is the admired one in good health and does he (or she) possess the qualities of ideal manhood (or womanhood), and has he (or she) a parentage free from hereditary taints. These questions answered affirmatively, the questioner steps boldly across the threshold and enters into an unreserved love.

SUMMARY

RACE BETTERMENT depends upon the two biological factors: HEREDITY and ENVIRONMENT. One of these is as important as the other; and *each is all-important*. Both of these factors may be guided, assisted and controlled by two forces: STATE LAWS and EDUCATION.

Important as is legal control of marriage licensure, that control can hardly accomplish more than to forbid marriage to the grossly unfit; but *stopping the breeding of the unfit can never uplift the race; it can, at best, only arrest race decadence*.

Race Betterment can be accomplished through EDUCATION only. While this education culminates in a course of instruction in EUGENICS during the mid-adolescent period, the foundation of this education must be laid in *Childhood and Early Youth*.

The object of this teaching is: (I) To give *a wholesome viewpoint* of the great, sacred truths of life; and (II) To give *high ideals* toward which to strive. *This teaching is Home work and for the parents to do*.

But, as *the school is an extension of the home, and the teacher an extension of the parent, so the teacher must cooperate with and supplement the home instruction* and in the school must *foster the wholesome viewpoint and must establish HIGH ideals*.

Education should cover the following lessons: *Motherhood and Fatherhood; Womanhood or Manhood; Periodicity; Social Relationships and EUGENICS*.

SCHOOL AND INDUSTRIAL HYGIENE

SOME CHANGING CONCEPTIONS OF SCHOOL HYGIENE

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School hygiene, as an organized scientific study of the school child and his environment, has engaged the serious attention of school administrators for a period of less than fifteen years.

We are accustomed to say that health work in schools began when the schools of Boston, New York and Chicago organized so-called "Medical Inspection" between the years 1894 and 1897; but this is not strictly true, for sporadic attempts to improve school health conditions had been made in various places at periods much earlier than this. For example, in Minnesota, where the secretary of the State Board of Health encouraged a study of the eyes, ears, periods of sleep and general physical appearance of university students, normal school students and pupils in certain public schools, as early as 1878; in Boston, where studies in anthropometric measurements were long ago instituted by Doctor Bowditch; in Elmira, N. Y., where the health of children in the schools is said to have received some specific attention as long ago as 1876; and in Minneapolis, where Dr. Frank Allport organized systematic examinations of eyes and ears of school children in 1888. Doctor Allport's work was unquestionably the most important and far-reaching in its influence of any of the early attempts in school health supervision, and it is a matter of considerable interest that to this day he is in the vanguard of school hygienists.

Most of the early efforts to improve the health of pupils in the schools were directed toward the recognition and control of the transmissible diseases of childhood, with the notable exceptions of those of Doctor Allport and one or two other pioneers in the field.

After 1898, however, a broader conception of Medical Inspection developed and it was soon recognized that important as is the control of contagious disease among pupils, as a matter of plain fact this is the least of the many problems of school health. Children who under the old method of inspection were passed as satisfactory were found in many instances, under the new health conception, suffering from serious defects of sight and hearing; from defects of the nose and throat; from nervous disorders and nutritional disturbances; from defects of the mouth and teeth; from functional and organic heart

disturbances; and last, but far from least, from the various degrees of actual *mental deficiency*.

At first the medical officer in schools was an appointee of the local Board of Health and his function was naturally regarded largely as that of a public health official or *inspector*. Today the health officer in schools is, in the most enlightened communities, looked upon as a *Specialist in Child Hygiene and School Sanitation*, and his function is therefore regarded as that of a *school official* interested in improving the personal health and health environment of the school child. To this end his interests are related to those of Boards of Education rather than to those of Boards of Health, although there must be, of course, a close relation and effective coöperation between these two important bodies.

Formerly, and to a considerable extent at present, school health officers were chosen without any particular regard to special fitness. In many instances they were, and are still, men who have passed the age of active usefulness in practice or men who were beginning their practice and therefore had abundant time to devote to the work; in both instances the schools usually received ineffective service for reasons which require no special elucidation.

THE MEDICAL OFFICER IN SCHOOLS

There is no general agreement in respect to the qualities necessary for school medical officers. Many communities appoint almost any physician who has a fair standing, without reference to his special training or aptitude. In some places men or women have been appointed as school health officers who have had no medical training of any description.

As a matter of fact the position of school health officer in the United States has never been standardized. As conditions now exist, we find the following types of health officers in schools: (1) well-trained, full-time medical officers; (2) well-trained, part-time medical officers; (3) well-trained, emergency medical officers; (4) inadequately trained medical officers in divisions 1, 2 and 3; (5) hygienists without medical training on part or full time; (6) physical directors who include health examinations as part of their duties, and who may or may not possess medical training; (7) full-time nurses who make examinations; (8) part-time nurses who make examinations; (9) principals or teachers who make partial tests of physical conditions.

Whether a community employs a medical officer for part or full time is a matter of secondary importance compared with competency. In England school health officers must show preparation for their

work; but very few physicians in this country have had any special training in school hygiene. Well-trained physicians may, however, easily acquire the special training necessary. A physician whose preparation has included the usual academic branches and thorough work in biology, general hygiene, physiology, chemistry, physics, pathology, and bacteriology, need find no special difficulty in rapidly acquiring the details of child and school hygiene; nor will he in every instance need for this purpose attendance upon special courses of instruction, desirable as the latter undoubtedly are.

Such a physician must, first of all, possess aptitude in handling school children; second, he must understand and be in sympathy with modern pedagogical problems; third, he must possess diplomacy in handling all sorts and conditions of people.

The special knowledge of school hygiene and of pedagogy he may, if need be, acquire through an acquaintance with the now abundant literature on these subjects; the other qualities he must naturally possess, for he can never acquire them through study alone.

A community, then, in selecting a school medical officer, should seek a cultured physician whose training in the fundamentals of medical science has been adequate and who, in addition, possesses aptitude and enthusiasm for the work and a willingness to supply any deficiency he may have along special lines. Having standardized these general qualifications, most other matters will be found to consist of small details of administration.

Large communities, requiring full-time men at adequate salaries, have a right to demand special and somewhat prolonged training, for child and school hygiene is truly a specialty. Ordinarily such training will not be acquired in less than one year in addition to the usual four-year medical course, or six-year "combined courses." The possession of a Doctor of Public Health degree, such as has long been given in England and is now given at Harvard, the University of Michigan, and the University of Wisconsin, will furnish evidence of the highest specialized training and is certainly most desirable when it can be obtained, for school hygiene is after all only one phase of public hygiene.

Having agreed on the main principles which should underlie the appointment of a school health officer, certain details of administration should be considered.

1. The school health officer should in the larger places be controlled by the board of education.

2. A coöperative plan whereby the board of education and board of health jointly control school hygiene may be desirable for special local reasons.

3. School health officers may be provided by combining the position of town or small city health officer with that of school health officer, in which case the expense may be shared by the board of health and board of education; the appointment may be made by the former board with the approval of the latter. This is an excellent arrangement for large towns and small cities. It has worked out admirably in the city of Rochester, Minn.

4. County health officers, if properly qualified, may be appointed as school officers as well, and in this joint capacity supervise the school health of a village or a whole county, according to the population and distance involved. This will often solve the problem of hygiene in rural schools.

5. The compensation for a school health officer may be based upon the time required of him and upon the amount of his responsibility. A full-time officer should receive from \$2,500 to \$5,000, according to the size of the community.* A part-time officer may be paid for one-half of every school day from \$900 to \$2,000. In some instances where, for example, one man is responsible for the entire health supervision of a rather large community, as in Pasadena and San Diego, Cal., the salary should be from \$1,600 to \$2,000.† Where less than half of every day is required, it is advisable to base the remuneration upon the number of pupils examined, and not less than 50 to 75 cents should be paid for each examination. At this rate a town with a school population of 600 pupils should pay from \$300 to \$450. Any community with less than 1,800 pupils would do well to adopt the per capita plan of payment as a basis for salary. Voluntary or cheaply paid service is never advisable. It invariably fails after a comparatively short trial.

6. Large cities should employ a director of school hygiene and several assistant directors on full time. A few half-time men may be required, but in general the work of half-time men in large cities will be better done by full-time school nurses.

7. School health officers should familiarize themselves with the following divisions of school and child hygiene: (a) Transmissible diseases; (b) school sanitation; (c) physical defects; (d) mental defects; (e) dental hygiene; (f) the teaching of hygiene; (g) juvenile delinquency; (h) retardation; (i) school hygiene literature; (j) the elements of school architecture.

* Oakland, Cal., pays \$3,600; St. Louis, Mo., pays \$3,500; Milwaukee, Wis., pays \$3,800; Minneapolis, Minn., pays \$3,500. All of these salaries are too low for the service given.

† Pasadena pays \$1,700; San Diego pays \$1,800. Each of these cities should pay \$2,000.

The position of the health officer in schools must no longer be regarded as a cheap job for a cheap man. Schools which are satisfied with inferior officers and teachers will no doubt be satisfied with incompetent medical officers. Progressive schools will appoint only well-trained medical officers who are worthy of the respect of the communities in which they live. American school communities may well study the subject of school health supervision as carried out in England, Germany, Denmark, and some other European countries where the matter has long ago passed the experimental stage. There a school health officer is treated with at least as much deference as the school superintendent or head master.

The new conception of the school health officer, then, is that he shall be a specialist carefully trained in the problems of child hygiene and particularly as this applies to the school child; one who can command the full respect of the community in general and of the medical profession in particular.

The child hygienist occupies a new field and his work makes necessary the recognition of a new profession. Until this idea is fully grasped by those in authority in schools we shall continue to have, as in the past, a very large number of more or less incompetent medical and other health workers in our schools; we need not experience surprise if under these conditions school health work often fails to secure the support of local communities and the medical profession in them. The modern school health officer must be in a position to demand the same degree of professional respect which is accorded to other specialists in either the medical or educational professions, and only those who have properly prepared themselves may justly make such demands.

SOME OF THE FUNCTIONS OF THE SCHOOL HEALTH DEPARTMENT

The division of school hygiene should include in its functions not only the health supervision of school children and the maintenance of a healthful school environment, but also such subdivisions as the following:

1. Supervision of the teaching of hygiene.
2. Supervision of the health of teachers.
3. Supervision of physical education.
4. Maintenance of a central office for special examinations and consultations with parents.
5. Maintenance of a central laboratory for the study of exceptional children, especially those who are retarded and mentally subnormal.

6. Supervision of a public lecture department for parents, where topics on the home and school hygiene of the child may be presented.

7. Instruction of teachers on the subject of the physical and mental observation of children.

A school department of hygiene organized on a basis such as this will be recognized as one of unquestionable general utility instead of one of restricted and often questionable usefulness. In such a department all factions in a school community may discover work with which they can sympathize and coöperate, while in the narrower work of mere medical inspection there will always be many who are either apathetic or positively antagonistic. It will be recognized by all that work organized on such a basis is primarily *educational* in character and designed to directly promote the educational opportunities of the entire school system. In such a plan no one function is emphasized at the expense of another, but to each is accorded only its legitimate field of usefulness.

The latest and perhaps the most important development in school hygiene is that which relates to the study of the "Exceptional Child." Children who belong in this somewhat vague classification may for purposes of convenience be grouped as follows:

1. Retarded children of all classes (including defectives).
2. Unusually nervous children.
3. Dull children (not necessarily retarded).
4. Precocious children.
5. Delinquent children.
6. *Peculiar* children who cannot always be specifically classified (border-line cases).

The proper study of children included in the above list requires some special training in psychological procedures, which cannot at present be required of every school health official. Every large, well-organized school health department will, however, include this division and provide a well-trained person to carry out the work, as is now done in Los Angeles, Philadelphia, Milwaukee, Minneapolis, Grand Rapids, and a few other cities. Smaller places must usually content themselves with a less comprehensive plan.

In every community, however, which essays serious health work, some provision should be made for a study of exceptional children. This may often be accomplished by placing the work in charge of a teacher who has had previous opportunity to follow courses in child study and applied psychology under competent and experienced teachers.

The Vineland School under Doctor Goddard has for some time offered limited courses along these lines for teachers, and many have already availed themselves of the special privileges it holds for them.

That there are many defective children in our schools, most of whom are unrecognized as such, has become apparent since the Binet intelligence tests have come into common use. Not less than one per cent and probably nearly three per cent of the children in the average school system are below normal in intelligence as evidenced by the use of the Binet Scale, and this to a degree which unfits them to profit by the usual school methods. It is of the greatest possible importance to clearly distinguish between the merely dull and the defective child; between the morally delinquent and mentally defective; between the mis-fit or *specialized* defective and the intellectually subnormal; yet this is rarely done in our schools today. About forty per cent of our twenty million school children are retarded one or more grades, and fifty per cent of our children never pass beyond the sixth grade; yet comparatively little is being done to discover the real underlying causes. That to a considerable extent this situation is due to mental or physical peculiarities, or both, no one of much experience in school hygiene has any serious doubts.

The new conception of child hygiene involves the adaptation of the school to the child instead of vain attempts to force the child to fit the school, as has been the usual custom in the past. When this new field in child hygiene becomes well established in our public schools, they will not only be relieved of a tremendous drain upon their daily efforts, but a large sum of money will be saved every year in avoiding the expense of carrying over hopeless repeaters. This sum might well be expended for the special education of certain subnormal pupils who at present receive no profit in school and go out into life to become the wards of society.

School health work needs standardization and standards ought to be furnished by the state. Minnesota, and to a limited extent, Virginia, are the only states which up to the present have attempted to furnish such standards. This state work in school hygiene ought to be carried on either by the State Department of Public Instruction or State Board of Health, or by the coöperation of these two bodies. The latter plan is probably the most desirable and was found to work out admirably in Minnesota under the able management of Dr. H. M. Bracken and Superintendent Schulz. Michigan has (1914) undertaken a limited amount of work along similar lines by the employment of a specialist to make a tour of some of the most important parts of the state, in connection with the Department of Public Instruction.

This is in fact the "Century of the Child," and the phrase—"the child is our greatest natural asset" is fast becoming recognized as one of fundamental truth instead of one of rhetorical effect. The public schools are in some respects, as has been recently said, guilty of more wastefulness and less effective results than any other public institution. Yet there is no real cause for alarm, for the evils of our public school system have come to light and no class of people appreciate them fuller than the school people themselves. Our public schools will indeed become the real as well as the rhetorical "bulwark of the nation" just as soon as the public will grant the officials and teachers the power, privilege, and financial support which they so richly deserve.

THE RACE BETTERMENT MOVEMENT IN WOMEN'S COLLEGES

DR. CAROLYN GEISEL, Shorter College, Rome, Georgia.

If Race Betterment is to mean anything at all to the great, wide world, it must begin with education for her who has to do with the race in its infancy. Allow me to put to you a conundrum. Let me put it in approved twentieth century phrasing. Why is a college? Now let me answer my own conundrum. A college is for the same reason as is a grindstone, if you please, just to sharpen the instrument that touches it. The college should make fit for use, make fit for its place in the world, that which comes in touch with it. Do the colleges do this? All the colleges in the world? Please understand I am not making a sweeping statement. I do not mean that colleges as a whole are inefficient, but I want to ask this audience, if, generally speaking, the colleges do what the colleges are expected to do? Let me illustrate. Do you know Mr. Tilden? I knew him when he was a boy and I a short-skirted girl. He said, "I am going to do something before I die," and I answered, "If you are, get about it." Later when as college woman I met him, the college man, I asked, "What has become of that you intended to do?" He answered, "I am doing it. I am getting ready, just wait." And she is in this audience who was with me at the Streator Illinois Chautauqua when there was put in my hands a long newspaper excerpt, detailing the work this man Tilden had done. In eleven years of time in one of the largest universities of this great world, a university backed by millions of money, he had pursued an idea. Curious to know what he did? Then let me ask you, Are you fastidious? Would you like just one stripe on the backs of your potato bugs? Well, Tilden can tell you how. And you

don't care? You are willing to leave ten stripes on yours? All right, Tilden can tell you how. In other words it took him eleven years of time with the backing of one of the world's greatest universities, which in turn was backed by millions of money, to find out how to vary the stripes on the backs of potato bugs. I read it all, and this leaden thing in here you call a heart went away down in my shoes with a thud, and my woman's soul cried out to the God of things as they are, for eleven years of time and for the backing of some great university, with millions of money, to teach us women folk, who are mothers of men, how to vary the stripes on the backs of the two hundred and forty thousand criminals in these United States of ours. They are our sons, born of women—ours. A woman goes almost to the door of death to bring back a man child and then the world takes him, and at the end of twenty-one years, when a mother's part of the work is over, he is already marked for the penitentiary mayhap and a man's place in life is vacant and a mother's heart is broken. Could she have changed his stripes, and saved her own soul from sorrow, if she had had eleven years of college training? Is there some possible wrong when a college no better prepares for real life or teaches that which concerns real life than the problem I have just presented to you? Was the world ever robbed of a man, and a criminal made from an innocent babe, because some mother woman lacked that education which made wise Tilden able to change stripes?

Of the colleges for women here in America it is but a few years since these were of two sorts, two only, and neither one paid any particular attention to preparing the real woman for a woman's real life. Again I am not making sweeping statements. Bear with me. I do not wish to be understood as saying that all women in all colleges receive no education that is adequate, nor yet am I saying that all colleges for women are inadequate. Speaking generally there are two sorts of colleges for women in these United States of America (away back in the years women had some difficulty getting into any at all). The first of these colleges is the co-educational institution which gives to women folk the same kind of education our brothers receive. What shall we do with this education when it is finished and we have our degrees? Do with it what I did, of course. You know what they used to call us at Ann Arbor? Some of you are here from Ann Arbor. You know perfectly well that my Alma Mater used to speak of us as "female medical men." We cut our hair short and strode up and down the great big world, burned our books upon home and motherhood and let the problems of race betterment be handled by someone else than the mothers of men. We would have none of it. Why not?—Because we were educated for commercial life; the kind

of education our brothers received, sent us where our brothers went, into the commercial field and nowhere else.

The second kind of school for women was familiarly known as the "finishing school," the "female seminary." Now don't you misunderstand me, again, I am literally quaking in my shoes lest you do; all the colleges for women are not of the "finishing school" sort, but there does exist in this great United States of America, as in other countries, a so-called finishing school, of a rather superficial sort, to which we send our girls, some of us, sometimes. They learn to dance, oh, yes, of course! Learn to jibber French and German, of course! Learn to read Greek and Latin limitedly, to sing in Italian, to paint on china, on canvas, and on flesh; and decorate their bodies after the approved fashion, and when you get your daughter back from that school, my brother, she is finished, indeed. At medical banquets, which you sometimes attend, you repeatedly hear this one toast offered to women, "Woman, God's greatest gift to man and the chief support of the doctors." Is she so prepared for her holy place in life, the place of motherhood, which is the very tap-root of all race betterment? Prepared! Of course not. She may give her life with the first attempt at motherhood, and if she gives not her life, she sometimes brings back from the grave, which she so nearly entered, a weakling child which for one transcendent, rapturous minute she holds close to her woman's heart. Holds it there with feeble hands that tremble with ecstatic joy, then lets it slip away into its little grave. We buried in the United States of America last year so many little wee new babies that their graves, if brought together, would carpet this beautiful state of Michigan. One out of every two of all the children born of woman, die before they are fully mature. Tell me, if one out of every two of the hogs that come to be—let me say that again so you will hear me—if one out of every two of all the hogs that are born were to die before they matured, would not every man in the stock-raising business go squarely out of the hog business? Of course he would. He would be simple and nothing short of it to remain in a business which promised him such limited returns. Are we, then, of less mental capacity than our brothers that we are simple enough to continue in the business of race nurture when the whole world taunts us because of limited returns? Woman did not get her life-work by her own choosing. She was appointed by the Great I Am to this business of raising men. It is a stupendous task! An awful job! It takes twenty-one years of a mother's life; then when the mother's part of it is over, she surrenders the unfinished piece into the hands of a wife. It takes at least two women to raise one good man, his mother and his wife. Sometimes it takes more than

one of the latter. What has all this to do with the race betterment movement? What has it all to do with colleges for women? I shall have to talk rapidly now.

It is well-known to all of you that many schools and colleges where women go to get learning have for some years been teaching Domestic Science, Physical Culture, Sanitation, Hygiene, and here and there one is teaching Eugenics, and in the fall of 1913, Bryn Mawr is said to have declared for health as of first importance. But this, good as it is, is not enough. As the agricultural college prepares the farmer for a farmer's life, the business college prepares the business man for business, so should the woman's college first of all prepare a woman for a woman's life. All or any education added thereto can in no way be injured by such firm foundations.

Ninety per cent of all the women in the world marry.

Marriage should mean home-making. Marriage and home-making should mean motherhood. Countless and pitiful are the tragedies of the unprepared.

For more than ten years I have gone up and down this land of ours, in schools, colleges, Chautauquas and wherenot, crying out for a college that would definitely teach a woman her own business. Why not?

Two years ago this month I went to Shorter College, in Rome, Georgia, to fill an engagement which Doctor Kellogg had made. I was to talk Health and Race Betterment to the women students as I had talked it to hundreds of others. The president, faculty and trustees listened, then the president said, "Come with us" and the trustees said, "You belong to this college and the college belongs to you." So was established in Shorter College, at Rome, Georgia, the first endowed Chair of Health in an American college for women. Then the title "Chair of Health" seemed not comprehensive enough. We decided to make it a Chair of Health and Home Economics with the avowed purpose that I have stated. Mr. Chairman, I do not intend to die until this movement for definite education which means Race Betterment is put into every college in the United States of America.

The plans for procedure, the purposes and aims of the department, are two: First, to build a strong body for the student herself, to definitely establish her in health so firm that when she leaves college she will not be the "chief support of the doctor" but instead, a balanced, strong unit in the support of this liberty-loving government of ours, of which, we trust, she will by that time be a full-fledged citizen.

The second plan of procedure in the work of the department is to give the student such complete knowledge of Health and Home-making as will secure strong bodies to her family.

The first—the establishment of the student in health—is to be accomplished by systematic living of health principles during the four years of her college life. The second by scientific study of Health and Home-making, which study is definitely required as part of the curriculum. She will be expected to follow six practical lines which lead to health.

1. Scientifically ordered diet—arranged by a graduate dietitian.
2. Systematic exercise and a due amount of rest—directed by a physical trainer.
3. The out-of-door life.
4. Healthful dress.
5. Avoidance of self-drugging; the use of rational remedies for diseased conditions under supervision of a resident physician and trained nurse.

6. Freedom from worry which comes from a living faith in a loving God as taught and encouraged by the daily life of the college.

Does the diet of a young woman of college age need the attention of educators? Look you! I can speak feelingly on that subject. I went through college on chocolate creams and coffee, and when college days were over it took Doctor Kellogg and this institution months and months to bring me back from the grave. There are so-called colleges in existence right now which daily serve a bill-of-fare that is just as bad as can be. No attempt made at balance and little intelligent attention given to nutritive value of the day's rations, while much thought appears to be put upon so-called economy. More than one girl away from home in school tonight is subsisting on dill-pickles, saratoga-chips, chocolate creams and what-not that she buys from the little store around the corner. That little-store-around-the-corner takes no small part of her money and as a result some doctor among us makes a vacant-looking place in her Daddy's bank account later. Correct the diet then.

This department will encourage the out-of-door life. Put the student out-of-doors for physical exercise. This does not mean *delsarte* and calisthenics; it does not mean the fancy work of physical exercise. It means downright hard work—riding, driving, running, living out-of-doors, studying lessons out-of-doors, deep breathing exercises out-of-doors, staying out-of-doors nights as well as days, encouraging the out-of-door life.

Did you notice that I mentioned, as a third maneuver for establishing this young woman in health, the matter of dress? Awfully sensi-

tive point just now. The next-to-nothing with which the twentieth century American girl gowns herself is not a poem. We propose by the work done in this department to correct a girl's ideals of dress. There will then be displayed upon the screen no more such pictures as you saw last night with the visceral organs displaced because of mischievous constrictions around the middle of the body. There will be no more coughs, colds, or pneumonia contracted because of the uncoveredness of her—neck.

When she enters college the student will be examined; examined from the crown of her head to the tips of her beautiful little toes. Incipient disease can sometimes be discovered and corrected by the resident physician. Flat-chest, spinal curvatures and other deformities of habit will be sent to the gymnasium and trained out. Dyspepsia, anemia, and other mischiefs consequent upon indigestion, malassimilation or malnutrition will be sent to the dietetic department and my lady be fed away from disease.

All that in this four years of college life she is asked to practise for health sake, she is also required to study; and in addition she must study sanitation, civics, household management, everything in short that is covered by that word *Euthenics*. The last year in college she will spend much time in the model cottage in actual management of a household, for a bit of practise helps to make perfect.

You with much gray in your hair, and you with no hair on top of your head—plain proof of life that is passed in part—have talked much and wisely of *Eugenics*, but why not talk all this to her? To her who is yet to be wife and mother? Why tell her when her head is bowed in shame over a sacred defective child. All this cannot avail to save her after the fatal mistake has been made. In this new department the seniors will study *Eugenics*.

And now let me tell you something which she won't tell. This is the girl who will marry, of course she will. You are all acquainted with my club? I have the great honor to be president of the A. M. K.'s. You know what the club is by the letters "*Antique Maidens' Club*." The major number of college women who recruit my club come from the co-educational colleges, from the colleges which have educated the woman in the same direction or along the same lines of thought as the man. Of course this woman is able to live her bachelor life quite independently and "*she does not care*." But the girl educated in the college for women alone will marry, if she be educated for the home and marrying; she will be a helpmeet indeed, a mother indeed. All because she has a strong body? No, not entirely, but because she was trained in every single little bit of a thing that can help to make her an efficient wife and mother. *This is her business*. Oh, you are wast-

ing time! [Applause] Won't you please keep still now and let me talk? I have only a minute more. Hear me! A woman's business to keep a home and rear children, that sounds badly coming from an old maid who campaigned the State of Michigan for suffrage last year; but in spite of suffrage, let me say it to you again, it is a woman's business to attend to that that the Master of Life called her to do, and God called her to motherhood. Why is she not a mother? Is it because, lacking training, she fears her inefficiency? Why is it that of one hundred women visited a few weeks ago by my friend, Miss Gearing, of Texas, there was found one and one-seventh of a baby for each little wife? In New York City I met with a club of fourteen women, wives they were, and one baby for the whole fourteen. This is the answer given to me when I asked a little woman in that club why she was not a mother. She said, lifting her shoulders with a shrug, "Why should I tie myself to the drudgery of rearing children?" Let me answer that. Drudgery goes out when science comes in. They called the farm drudgery when it, the farm, could not produce corn enough to support the family, but when science with the help of this government said to the boys, "Back to the farm, back to the farm," and the boys came from the agricultural college back to the farm, drudgery disappeared, was swallowed up by science in the full joy of returns. So also will science in home-making turn drudgery into delight. When she has learned the science of child-culture she will return to her own with eager joy.

But the government pays ninety millions of dollars—hard-earned tax money, yours and mine—to call the boys back to the farm. When has it paid ninety cents to call the woman back to the home? You can make a fuss about that if you want to. But unless we call the woman back to the home the very foundations of government will dissolve away. How shall we better the race without home? And how shall there be a home without a "female person around." The home is dependent upon a woman, the children are dependent upon her, why the very master of the house himself is dependent upon her.

There died last year fifty-six thousand more middle-aged men than ever before, so saith the man of statistics. I don't want all the middle-aged men to die. I shall be lonesome. Whose business is it to take care of a man? Why the business of her who vowed she loved him, the business of her who spends his money. Oh women, listen! If *he* is nothing in the big world but a money-making machine, it still will stand you in good stead to take care of him. You cannot get good, efficient work out of a money-making machine unless you have first learned what feeds him best, and he has a right when he gives you

his money to spend, to ask, "Do you know how to spend it wisely?" This Race Betterment movement in woman's colleges will teach a woman the value of a dollar as well as the value of a man, the value of things as well as the value of babies, and we dare hope to so reduce the high cost of living.

And now I am done when I have said to you this one thing more. Man is not all mind and a college is inefficient so long as it tries to train either man or woman in his mental capacity only: and man is not all animal and a college still is inefficient though it train both mind and body, for you were created, Oh, friends of mine, in the image of a Triune God, God the Father, God the Son, and God the Holy Ghost, and you the mental man, the physical man, and the spiritual should be nourished by another who knows Him, whom to know aright is light eternal. Hold, then, the babe to the breast of a Christian mother. The world may need penitentiaries, but praying mothers keep men from penitentiaries and so diminish the need for them. The world may need law, but the Law of the Lord converteth the Soul, and needs not to be enforced by the police. Let a Christian mother hold her child close to her, as the Catholic church would keep him close to itself through the first, malleable, impressionable seven years of his life, then let him go from his praying mother's knee out into the school, out into the world, and by and by to his place as man among men. He will have nursed from her breast that which will bind him to God and thereby shall the Soul of him be kept. Give us then colleges for women that shall teach a woman all that pertains to her own business and you have solved the Race Betterment problem.

Oh, I thank you. You have behaved beautifully. I thank you.

College Courses in Euthenics •

MRS. MELVIL DEWEY.

Discussion.

We are told that the educational forces pull up from the top; they don't push up from the bottom. Mrs. Richards' idea for Euthenics, this right living, should be in the course of study in the colleges and universities under this name. Then we will have these college-trained people, and they will be fitted for teaching in the normal schools. What has been done today in the normal schools to prepare teachers for this kind of instruction? That is the place that we are going to get it, if at all—your colleges, universities and normal schools, and it will come down and pull them right up.

FACTORY DEGENERATION

REV. NEWELL DWIGHT HILLIS

Pastor Plymouth Church, Brooklyn, N. Y.

I have been asked to speak on the causes of the deterioration of our factory classes. More than one hundred years have now passed by since tools and machinery began to influence the physique of the industrial workers. During this century the handful of operatives has become an army. With the increase of tools has come the congested populations, crowded about the great centers of Manchester and Birmingham, of Lawrence and Lowell, Fall River and New Bedford, and of the tenement region of New York. Now that long time has passed, the experts and physicians have had time to assemble the facts, and to find out what is the influence of the factory life upon the American physique. From time to time scientists have lifted up the voice of warning and alarm. The most striking portrayal of the perils of the English and American physique was that made by Prof. Alfred Russell Wallace, who has just celebrated his ninetieth birthday. Sharing with Charles Darwin the honor of discovering evolution, Professor Wallace has lately received many and signal honors from scientific societies. At the dinner given him in London his address was largely made up of reminiscences. He reviewed the progress of civilization during the last century and made a series of brilliant and startling contrasts between the England of 1813 and the world of 1913. He affirmed that our progress is only seeming and not real. Professor Wallace insists that the painters, the sculptors, the architects of Athens and Rome were so superior to the modern men that the very fragments of their marbles and temples are the despair of the present-day artists. He tells us that man has improved his telescope and spectacles, but that he is losing his eyesight; that man is improving his looms, but stiffening his fingers; improving his automobile and his locomotive, but losing his legs; improving his foods, but losing his digestion. He adds that the modern white slave traffic, orphan asylums, and tenement house life in factory towns make a black page in the history of the twentieth century.

THE ENGLISH REPORT

Professor Wallace's views are reinforced by the report of the commission of Parliament on the causes of the deterioration of the factory class people. In our own country Professor Jordan warns us against war, intemperance, overworking, underfeeding of poor children, and disturbs our contentment with his "Harvest of Blood." Professor Jenks is more pessimistic. He thinks that the pace, the climate and the stress of city life has broken down the Puritan stock,

that in another century our old families will be extinct, and that the flood of immigration means a Niagara of muddy waters fouling the pure springs of American life. In his address in New Haven Professor Kellogg calls the roll of the signs of race degeneracy and tells us that this deterioration even indicates a trend toward race extinction. From every side come warnings to the American people. Books and magazines, fresh from the press, tell us plainly that our people are fronting a social crisis. Scarcely a single city in our land that is not conducting an investigation of the police and exposing the social evil. A wave of immorality has swept over the country. It is the subject of conversation in the street cars, in the office and store, and at the family board. Such authorities as Doctor Kelley, of Baltimore, and Dr. W. W. Keen, the great surgeon, of Philadelphia, find the explanation of this singular breakdown in and decay of morals, first, in the incoming of the Huns and Vandals, with the low ideals of the Old World, and second, in the breakdown of character among our wealthy classes, with their debauchery, their divorces and their unending scandals, that lie like a black stain across the page of each morning paper. To all other causes we must add the influence of a group of degenerate authors and, worst of all, of authoresses. Sinclair says: "What we call prostitutes are not the worst, but generally the best of the poorer classes; people of fine physique, who cannot get their true match in the sphere where they were born, and must, by the holiest of all instincts, that of truth, seek upward by any means." A popular American actor has had so many wives that he now speaks of them by number, and recently defended American women against an attack of a Frenchman by saying that "in his experience nearly all American women made good wives." He calls this loose and indiscriminate epoch "a new experiment in living." Stanley found in Africa a brilliant spider that spread itself out like a flower, and beauty-seeking insects, lighting upon it, found, not honey, but fetters, pain and death. In every American city there is a black quarter and above those streets should be written Dante's words, "Abandon hope all ye who enter here." The time has fully come for the public school-teacher, the editor, the lecturer, the physician, the parent and teacher to end this guilty silence and to lift the wreath from that diseased hag named Lust, that has so long masqueraded as an angel of light. For the individual and the nation it is true that "he who soweth the wind shall reap the whirlwind."

SIGNS OF RACE DEGENERATION

The wise man always studies the signs of his time. Our experts are our physicians and scientists who have had an opportunity for

observation. The English author, Prof. Watt Smith, tells us that in 1813 the English standard for admission to the army was six feet; in 1845, the standard was dropped to five feet six inches; in 1883, it was lowered to five feet three inches, and in 1901, to five feet. The commission of the English government, appointed to study this subject, says on page 177 of its report: "In England degeneration is especially manifest in Manchester and other manufacturing districts. The police force is largely recruited from country districts, it not being possible to find men who are large enough in Manchester and Salford." Now comes the report from the recruiting department of England that "sixty per cent of the young men who offered themselves as volunteers for military duty were rejected because of physical unfitness." In our own country, the condition is no better. The New York Bureau of Municipal Research has published its examination of 1,500 school children in the Bowery district, and only seven per cent of these children had perfect sight, hearing, teeth and heart action. One of the first signs of the breakdown of a race is the increase of digestive disorders and the birth of children with poor teeth. When the mother has all the life and blood she needs for herself, the excess goes to build a perfect babe. In Cambridge, England, only one per cent of the children of eleven years of age had perfect teeth, yet the teeth taken from a plague pit into which the bodies were cast after the black death of two centuries ago showed that the deterioration is not only marked, but appalling. Another sign of the breakdown of our people is the alarming decrease in the birth-rate, and even of the women that bear children Doctor Holt says "three out of four born in the homes of the well-to-do classes must be fed at some other fount than the maternal breast."

THE INCREASE OF INSANITY

More alarming still is the increase of nervous diseases. Modern city life is very taxing. The fast pressure breaks down the heart and the arteries. Unable to keep up, young men stimulate, and this excited condition of the young father reappears in the nerves of his babe. Dr. Forbes Winslow, one of the great authorities on the brain and nerves, tells us in an article in the *London Times*, that, in his opinion, "the entire English race is destined to become insane." Doctor Kellogg quotes from the report from the superintendent of the insane asylum in Austin, Texas, and shows that both in New York State, at the one extreme of the country, and Texas, at the other, "every time the population doubles, the insane and defective people quadruple," so that it is only a question of a little time when the crazy people will "break out of the asylums and put us in." Constant excitement and

overwork are breaking down that wonderful engine named the human heart. Three times as many people die from diseases of the blood-vessels as died ten years ago. Life insurance men have made a singular discovery. It has been found that during the last century the average life has increased from thirty-three years to forty-two years, that singularly enough the gain has been through the saving of the lives of children, while the expectancy of life after forty years, instead of increasing notably, decreased. But Doctor Kellogg tells us "that the real measure and the physical vigor of a race is not the age at which the average man dies, but the proportion of individuals who attain great age." The time has gone by when we can any longer say that race degeneracy is simply a bugaboo created by pessimists and alarmists. The simple fact is, a tide of degeneracy is rolling in upon us, and the time has come to recognize the fact that unless drastic measures are taken, the whole standard of civilization will have to change in order to avert race extinction.

THE NEMESIS OF NATIONS

History is God's judgment day. Our earth is the graveyard of the races. In terms of the eternity of God, great nations fade like a leaf, to be blown up and down the long aisles of time. Witness Germany and England! More than 1,200 years ago alcoholic liquors were discovered by the forest children. These early people did not know how to drive out the fusel oil with other poisons. Nitric acid burns the hand and fusel-oil whiskey the stomach. The law of the survival of the fittest began to work. Historians believe that nine families out of ten went to the wall. Our forefathers had nerve so sound, digestion so firm, that they could not be killed off—no, not even by filth diseases and fusel-oil. The result was a generation immune. But the Indian had never had the test until the last three centuries. Under the influence of whiskey, nicotine, passions, only 125,000 remain of several millions. All of these Indians have now been charted and an overwhelming portion have one of four diseases—they are a vanishing people. The condition in Mexico is even more dreadful. Witness the Mexican colony in San Antonio, Texas, devastated by tuberculosis, Bright's disease, and the two unmentionable diseases. Of the 41,000,000 living in South America, 21,000,000 are native Indians, and under the stress of these terrific tests they are dissolving like red snow flakes in a river. The colored people are fronting the same problem. So long as they live on the Southern plantations, leave stimulants alone, they reproduce, but bring them into the great city, put them into competition with the white race, and they suffer beyond all words. The white man has had centuries

of civilization in which to harden his nerves and to become immunized. The colored man is now having his test through alcohol, nicotine and morphine and deadly drugs. When a horse is tired the spur in the bloody flank is fatal. When a colored man is tired the stimulant is as deadly as a dagger. In the city the colored race is not only not increasing in population, but is steadily losing. One-tenth of the white race survived, and if one-tenth of the colored prove immune to these modern stimulants, they will do well. Mother Nature is kind and tender to the obedient, but she is a stern mother to the disobedient, and she gets rid of the unfit as a form of social pity and mercy. Not that she immediately bows out of existence the youth that has one of the two diseases that make up the Red Plague. More often she shortens the life of the child of the diseased man and in the next generation gets rid of the stock altogether. The physicians of New York have published a report of the number of men; 225,000 cases of the worst of these two diseases, and three times as many more have two other diseases. In terms of three generations this large group will be wiped out. Only those who have sound nerve, rich blood and the strong heart engine can keep up the pace, and their descendants will people the earth.

THE CAUSES OF RACE DETERIORATION

One-half of our physicians and scientific experts tell us that the race is growing taller and stronger and healthier; the other half of the scientists, headed by men like Dr. Forbes Winslow, of London, tell us that the race is degenerating, steadily losing in stature, beauty and health; that it will wane to the point of extinction, begin once more on the edge of the forest, and perhaps, by obedience to the laws of nature, once more spread over the earth. Both statements are true. One-half of our people are God-fearing, law-loving, pure-living, and their children and descendants are growing taller, handsomer, healthier, happier. The other half is living for pleasure, the body and animalism, and their descendants are deteriorating in health, and will finally drop out of the world. Our climate is exciting, being dry, full of ozone that stimulates the nerve and heart. The undeveloped resources of our country make a powerful appeal to ambition and lead to overwork. Modern life is very complex, its details infinite, and men break down because of the pace. The new chemistry has discovered new stimulants. There are drugs for the heart and brain, and drugs for the nerves, until whiskey, wine, beer, absinthe, nicotine, opium, morphine, are among the gentler drugs. In a damp atmosphere stimulants are more easily expelled from the human body. In a dry atmosphere like ours, stimulants that would be harmless in Scot-

land or Holland are deadly in America. In such a climate and under such conditions, the young father rearing children and who stimulates during the twenties and thirties reproduces the stimulated and excitable nervous system in his babe, with the result that defective children are one of the most alarming facts of our era. But above all other causes is the influence of the Red Plague.

THE GREAT RED PLAGUE

A wave of terror has swept over this country. These infectious diseases have spread with such rapidity in the last ten years that whole states have become alarmed, and are passing the most drastic laws. So many diseased men are now on trains that the Pullman palace car is not allowed to furnish a glass drinking cup for ice water. In many states the law forbids the hotel permitting a public towel, and in some states only paper towels are permitted in hotels. One even finds warnings in depots to safeguard little children from infection. In a through train from California the other day, the passengers signed a roundrobin, asking the conductor to confine in a stateroom one man whose condition was obvious, and to prevent two others from entering the dining car. The physicians of New York, Chicago, Philadelphia and Baltimore have sent out warnings covering the following points. Of the great plagues afflicting humanity, the Great Red Plague is the most serious.

No man doubts for one minute but that a man of iron nerve and will could end this era of lawlessness and anarchy. Either he must end the anarchy or the lawlessness will end our great cities and our republics. On the slopes of Vesuvius there are cracks through which the sulphur issues, and the stench of hell mingles with the perfume of orange blossoms, and therefore the recent burial of a village under ashes and lurid lava. Just now our city is pouring forth passion in fiery waves, and our physicians and scientists are alarmed. But better days are coming. The people are waking up. There is to be an elect group, an aristocracy of health. Instead of the race breaking down, there is to be a new stock, taller, stronger, healthier, handsomer. But meanwhile it is for the people of this nation to remember that he who sows to the flesh shall of the flesh reap corruption. But the individual and the city that sow through the school, the home, the library, the factory, the sound business, shall of obedience to law reap health, happiness, peace and social prosperity.

INDUSTRIAL WELFARE

F. O. CLEMENTS, Representative of The National Cash Register Co., Dayton, Ohio.

A great many industrial concerns practice welfare work, and it requires no extended argument for justification. It is right and fair. For that reason, the subject is of interest to every one in this audience. It means the addition to business of convenience, comfort, healthful surroundings, in fact, anything that will assist in securing the prosperity and happiness of the worker. Incidentally, it tends, of course, to produce harmonious relations between men in the organization.

Several large industrial concerns located in England have been pioneers in the application of welfare work abroad. One of them, the Cadbury Company, chocolate manufacturers, has made a very enviable reputation for itself by introducing a great deal of educational work into its general scheme of operation.

The efforts of Port Sunlight, an English concern active in welfare work, have been particularly noticeable along the line of proper housing for their people—at least, this is one of the noteworthy features of their work. Many industrial concerns in the United States might be cited, like the United Shoe Machinery Company, International Harvester Company, United States Steel Corporation, and many others have instituted welfare work.

In 1892 we found that our people had no heart in what they were doing. They did not seem to care whether the business succeeded or not. As fast as employees were trained to the point where they would be of real service, they would leave and go to positions elsewhere. There was no special inducement or encouragement offered to keep them with us, because our factory was no better than the average American factory of that time. Five women left. They realized that they could secure equally as pleasant and remunerative employment elsewhere, and consequently they had no interest in our business.

Our President, Mr. Patterson, in going through the factory one day, noticed a woman heating coffee on a radiator. Later he saw a group of girls eating cold lunches at their workbenches, and so a kitchen was installed and they are now served a warm lunch at a nominal fee. The lunch furnished consists of a bowl of soup, one vegetable, bread and butter, milk and fruit—all at the cost of five cents.

In the early days of the business, the men and women came to work at the same time, while now the women arrive later than the men. In the evening they are well on their way home before the men leave

the factory. In the old days all employees were compelled to climb the stairs to the various departments. Today, elevator service is provided in advance of working hours for all employees, with separate elevator service for the women. The uncomfortable stool has been replaced by the high-back chair and foot rests. These cost very little more than the old-style stools, and result in greater comfort, health, and efficiency.

The National Cash Register Company have installed every type of convenience, sanitation, and safety within the factory. A great deal of time and effort have been devoted to the boys. The particular location of this manufacturing plant in 1892 was regarded as the most undesirable part of Dayton. It was called Slidertown, and it lived up to everything that its name implied. Much of the vileness and evil of the city seemed to center there. The yards were full of rubbish and refuse. Rents were low. Employees were ashamed to say that they worked at the factory. In addition, Slidertown was infested with what were believed to be bad boys. They broke the windows of the factory, pulled up the shrubbery and were constantly in mischief. A picket fence ten feet high was erected around the factory to keep these youngsters out, but even that was unavailing.

The President of the Company was convinced that if given an opportunity, a boy will do what is right and that a boy is bad in proportion as his mind is unoccupied. This theory was put into effect by giving them a meeting-place and by establishing classes in what today would be called manual training, and the setting apart of a plot of ground for garden work. The boys were supplied with seeds and tools and put to work. We were much surprised to find that the ring-leaders in the evil were also the leaders in the good. They were very enthusiastic when they found that they were going to do something that was really worth while. It was much better than replacing window-panes and repairing other damage. It taught the boys industry and perseverance. It improved their physical lives and had a lasting moral influence upon them. Many of these boys have entered the factory and have made the very best kind of apprentices and workmen. Others have gone out into the world as journeymen workmen, and most of them have been successful. We have followed their careers carefully because we early believed that there were great possibilities of making useful citizens out of mischievous boys.

To clean up the unsightly surroundings it was found necessary to do a great deal of neighborhood work. Due to vileness and unsightliness and bad surroundings, it was impossible to procure the class of help needed to manufacture a finished product of high grade. Skilled

labor would not come to Slidertown. To overcome the difficulty, neighborhood houses, or as we would call them today, social centers, were provided. Lectures illustrated by crude slides were made up to illustrate the proper and improper way of beautifying the surroundings.

Good housing and beautiful surroundings have a whole lot to do with the welfare and health of people. A backyard was improved by a boy twelve years of age—just a little seed and a little bit of hard work on the part of the boy. Furthermore, it stimulates outdoor life. Efficient work unquestionably depends upon the physical condition of the employee. From early days we have always



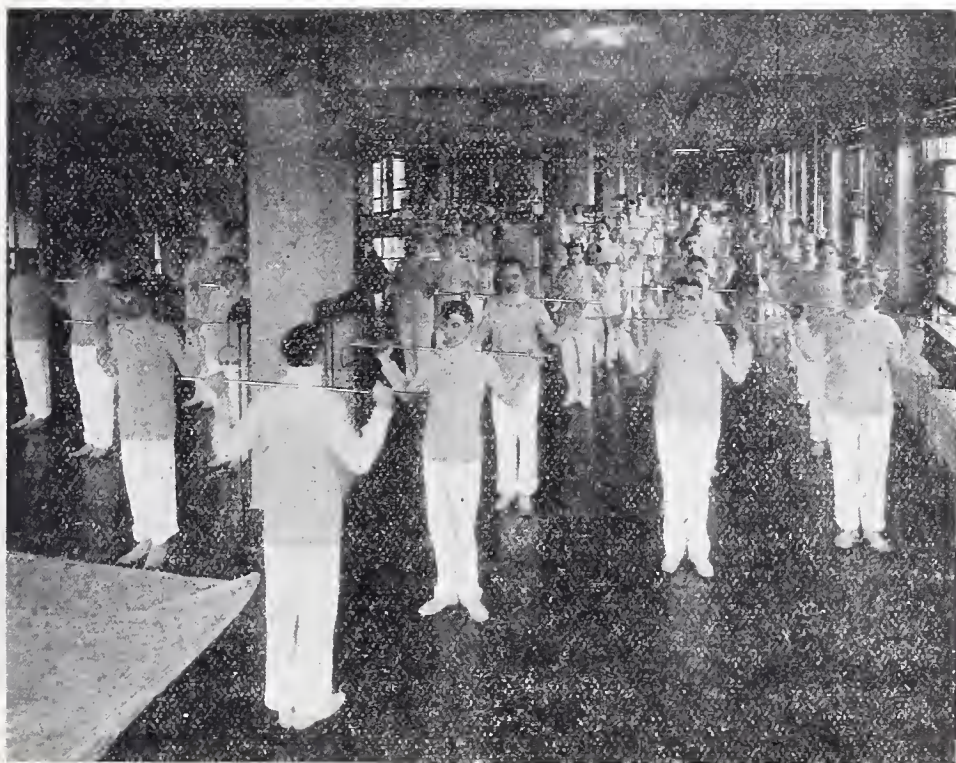
PLANT OF THE NATIONAL CASH REGISTER COMPANY, DAYTON, OHIO

believed that the efficiency of the worker is based upon health. As a consequence, for many years much of our type of instruction has had to do with the general question of health, and I wish to say in this connection that much of our finest inspiration has come from the Battle Creek Sanitarium—First, Health.

You know the other slogan that the industries are using so much—Safety First. They are both good. We do not believe it will be necessary to produce many arguments as to the value of fresh air. You would not think of putting an athlete into the basement of a building to train for some athletic event and expect him to excel.

Fresh air is absolutely essential, of course. In our older type of

buildings, air is drawn in through a ventilating duct from the top and distributed throughout the building. The air is changed every fifteen minutes. Some of our more modern buildings wash and humidify the air and a very close regulation of temperature is possible. One man spends his entire time regulating the heat of the buildings and controlling ventilation. In our Polishing Department and metal working rooms there is an exhaust system installed for carrying away the metal dust. This dust is discharged into large bins. About one week's accumulation is represented by nine barrels of this dust.



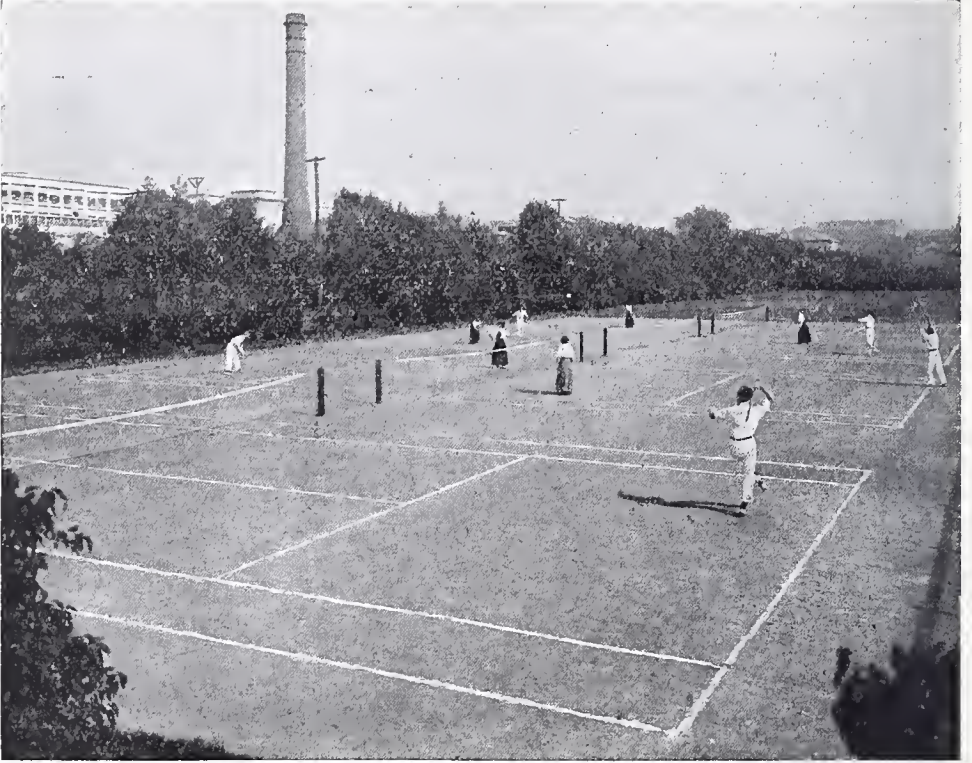
AN EXERCISING CLASS

This would have injured the eyes and lungs of the men if it had not been removed by some such device.

The Company makes every effort possible to keep every department just as clean and healthful as possible. The factory, in a sense, is really located in a garden. Doctor Read said yesterday "that flowers upon the table really produce a sort of psychic gastric juice." Unquestionably, beautiful shrubbery and flowers have a somewhat analogous effect on our product. At least, we believe better working conditions are closely related to good business.

Shrubbbery hides the foundations and walls, makes a break in the line of the wall, adding very much to the beauty of the surroundings.

We are great believers in exercise. At ten o'clock in the morning and at three in the afternoon, the windows in the office departments are thrown open and the men and women indulge in light exercises. We have a gymnasium and health classes for increasing the efficiency of the office force and the women employees. At the



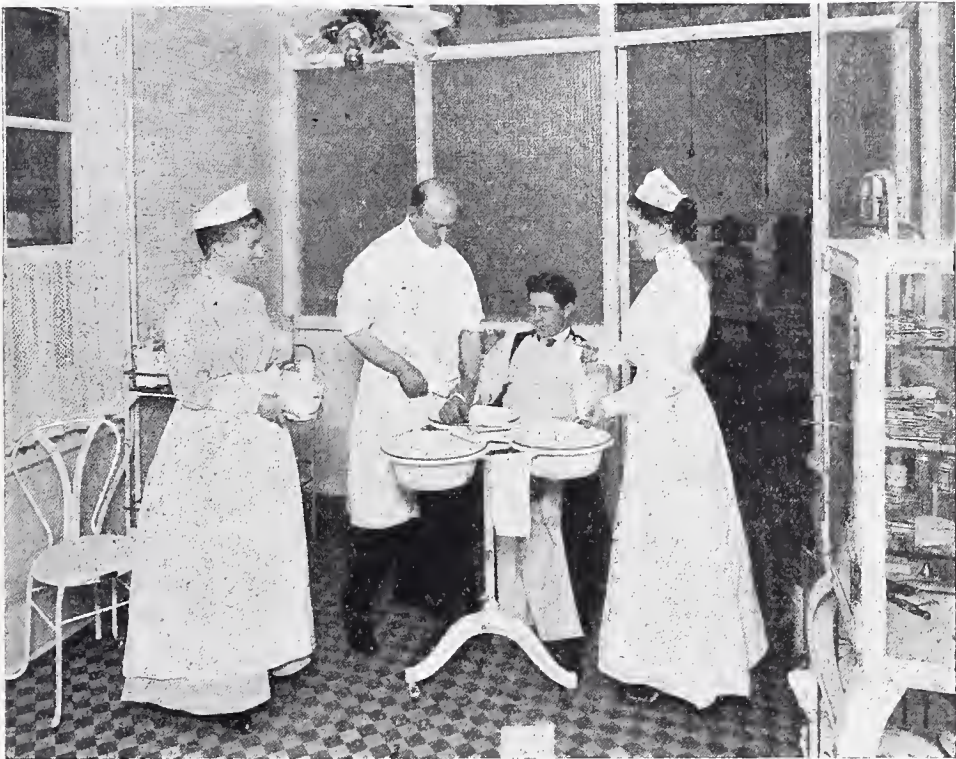
TENNIS COURTS ADJACENT TO FACTORY

present time, these classes are under the direction of a Battle Creek Sanitarium graduate.

The office clerks meet three times a week in the gymnasium after working hours. The athletic fields surrounding the factory are used by employees before and after work and during the noon hour. They consist of tennis courts, baseball grounds and gun club grounds. About three miles south of the factory is located the country club, which was established as a further incentive to outdoor exercise. It is located on a portion of Hills and Dales, a 1,100-acre estate owned by the President of the Company, which has been thrown open as a playground not only to the employees and their families, but to the citizens of Dayton as well. The club is nearly self-sup-

porting, and every employee is eligible to membership. The membership fee is \$1.00 per year.

All kinds of athletic sports are particularly fostered for the sake of the exercise and fresh air. Scattered throughout Hills and Dales are a number of Adirondack Camps. These are fully equipped with big fireplaces and water supply, fuel supply, and potatoes are to be found in the eupboards for baking. These camps are very popular and can be used by any employee on application.



THE EMERGENCY HOSPITAL

The Woman's Century Club is composed of the women employees at the factory. Any woman employee is eligible. Its object is to promote the intellectual and social welfare of its members. Meetings are held twice monthly. Prominent speakers are engaged from time to time to address the club members. A vacation house located in Hills and Dales is used by the Woman's Century Club for entertainments, week-end parties, etc. Its main object is to teach the women how to manage a home. The house will accommodate thirty girls. We have about seven hundred women in the factory, and most of them are at this club for at least a few days during the summer time. A Battle Creek Sanitarium graduate was in charge last summer.

The NCR Riding Club is eligible to any employee owning a horse.

In fact, the company encourages horseback riding because it brings the men out into the open air and gives them the exercise they need. In order to encourage employees to take part in this exercise, the horses are boarded in the Company's stables at cost.

Few people in the city are acquainted with the many beautiful highways and lanes which are to be found in the neighboring country. Nature study classes and walking classes make one realize that they have neglected one great branch of education; namely, that which Nature teaches. If time would permit, a great deal of attention should be paid to the various types of schools connected with all departments in our business. The future of any business is based upon teaching.

The National Cash Register Company early brought the school idea into the business, in order that merchants and business men throughout the world might learn the best way for handling their cash accounts. The company maintains training schools in various parts of the world for its agents. They also have advertising, accounting, apprenticeship, physical training, salesmanship, and other classes, meeting at regular intervals.

The water supply is very satisfactory. The factory secures this water from deep wells, samples of which are taken every two weeks and analyzed and submitted to a bacteriological test. The office building is supplied with distilled water and individual cup service.

Two hundred and twenty shower baths are distributed throughout the factory. Every employee is given company time to take two baths a week, and can have as many more as desired on his own time.

Treatment rooms have been provided, modeled very much after the hydrotherapy methods of the Sanitarium. This is also in charge of two Sanitarium graduates. The benefits to be derived are not confined simply to the men higher up. Men in the shop needing attention can have access to the baths. We have a good many health classes intended to increase the efficiency, particularly of our sedentary workers. Much attention has been paid to food. Quite a number of men have adopted the low-protein diet. They believe in the advantages derived therefrom.

Our Officers' Club accommodates about six hundred people at lunch. We serve a very wholesome, well-cooked dinner, very simple and very plain. Food is kept hot in chafing dishes and served on plates holding hot water.

Brushes and combs are sterilized daily and washed in benzine, then

placed in sterilizers. Roller towels have been done away with, substituting individual hand towels. The girls are provided with sleevelets and clean aprons every week. Umbrellas and overshoes are loaned on rainy days. They are issued on checks and are returned the following day.

All new employees must undergo a physical examination. This is done as a protection to those already employed. After employees are accepted, great care is taken to protect them. We believe in periodic examinations, but have not done very much along this line to date.

The employees have a strong voluntary Relief Association which pays sick, accident and death benefits.

We also have an emergency hospital where accidents are cared for. Our accidents, however, are reduced to a minimum. This is due to the safety devices with which all machines throughout the plant are equipped. We have a trained nurse who visits our sick employees, in their homes, offering suggestions and advice. It is far more economical to keep employees well than to employ new ones in their places. An oculist examines the eyes of our employees and decides when glasses are needed. Free examination is afforded and the company pays half of the price of the glasses.

A new building, called our Hall of Industrial Education was erected recently. It is capable of seating about 1,200 people and has, besides a large auditorium, a number of small school rooms. We are thorough believers in teaching through the eye. In fact, about eighty-five per cent of the knowledge which we acquire comes through the eye. Consequently these lecture halls and school-rooms are thoroughly equipped with projection apparatus. In the large hall the projection is done from the rear through a glass screen. Noise is eliminated and there is no danger of fire, both very attractive features. This hall is aptly called our Power-House, and really is more distinctly a power-house than the one housing our turbines, engines, etc. Much of our time has been devoted to educational talks on health, and we have many lectures on many different subjects. Even a class of salesmen coming in to spend six weeks in study is given quite a bit of training in hygiene. We believe in health education very thoroughly. We endeavor to make these talks very simple. We try for short words and big ideas. It is a very difficult matter to put up a talk in physiology so simple that everybody can understand it. We have talks on bacteria, common cold, constipation, and a great many other allied subjects. It was the school idea that saved the day at the time of the breakdown in 1892. We had to do something to overcome the inertia or lack of interest in the work, so we started the school idea and have been at it ever since.

The slides used in the early days were extremely crude. Despite their crudeness, however, they were of considerable value. Today our collection totals somewhere around fifty thousand different slides. Our belief in health education is not a recent move on our part, but dates back many years. Our early literature had little excerpts and short sayings relating to health. Moving picture films, if they have any educational value, are utilized for educational purposes. Our weekly paper helps to disseminate this type of information.

A large number of our office employees asked for a vegetarian table voluntarily. It is very difficult to get the average man to understand what we mean by protein, fat, carbohydrate, balanced diet, etc. We spend a great deal of time trying to simplify this particular subject, believing it to be one of the most important.

You will probably agree with us when we say that welfare work is right, but you may be just a bit skeptical when we repeat it is an absolute necessity in our business. We feel that we could not build a good reliable, accurate cash register without it because no system of inspection has been devised that will give us the accuracy we want. When an employee is not feeling well, he does poor work, and when an inspector is not feeling well, he passes parts that he would not pass ordinarily. Welfare work supplies just that which is lacking in the inspection system. It brings the best there is out of each employee and results in coöperation and team play. Welfare work does not take the place of wages. It costs us less than six cents per day per employee. For that six cents, we provide healthful surroundings, personal comfort, recreation, education and training. We receive in return much more than six cents' worth of efficiency from each employee. So welfare work is not philanthropy. It is nothing more than good common sense, and it pays.

CITY, STATE AND NATIONAL HYGIENE

FUNCTION OF INDIVIDUAL, CITY, STATE AND NATION IN RACE BETTERMENT

(Letter to the President of the Conference)

SIR HORACE PLUNKETT, K.C.V.O., F.R.S., Ex-Minister of Agriculture
for Ireland, Dublin, Ireland.

The work for which I suppose I was born, calls me home. I had hoped that I might remain and make a modest contribution to the deliberations over which those of us who were consulted upon the program and arrangements of the National Race Betterment Conference unanimously agreed that you were the ideal presiding officer. But, as you know, Ireland just now needs all her workers, and I must go.

The program you will have to get through is—to say the least—full; and no one need regret that I do not crowd out any of the absorbingly interesting subjects which are to be treated, nearly all by real experts, and not by laymen like myself. Moreover, I feel that, as I cannot be present, the particular question I intended to discuss, “The Function of the Individual, City, State and Nation in Bringing about Race Betterment,” would better be left over, until, as the result of the Conference’s deliberations, we know the scope of the work which has to be done to attain the end the Conference has in view. Then only can the responsibility be divided and the tasks assigned to the effective agencies, educational, administrative, and propagandist, which must follow up the conclusions at which the Conference arrives.

Will you allow me to make one suggestion (which is within the province of the layman), relating to a real issue not directly raised in any of the subjects announced for discussion, and yet in a sense germane to nearly all of them. (My own life’s work relates to the rural side of our civilization, which I hold to have been badly neglected.) The people of my own country are predominantly rural, and my experience in studying and dealing practically with its problems has brought me into embarrassingly intimate relations with a numerous body of social workers in the rural sections of the United States. These workers aim at a complete reconstruction of rural life—an improvement of its technical and business methods and of its domestic and social conditions. For reasons of national importance and urgency—reasons economic, social, and political—the settlement of a much greater proportion of the people upon the

farm lands of the country, in healthy, happy, and progressive communities, is becoming every year increasingly the aim and object of philanthropic endeavor. These workers believe that the country offers a far better hope of race betterment than the city. But in the neglect of rural problems, in the urbanization of all thought which characterizes this age, there is very little statistical or other material on which the rural reformer can base this part of his case. Speaking as one of these workers, may I ask the Conference to bear in mind the countryside, and to give us any help they can, by way of counsel and advice, as to how we may re-enforce our plea that country life is better for the race than city life, and how we may, by applying the wisdom of the Conference, demonstrate that truth. I won't promise to preach eugenics, because the prophets of that science tell me that I had no business to be born. But in any other direction I will be guided by you and the other scientists over whom you will preside.

May I say in conclusion how glad I am that the Conference is, by the choice of its meeting-place, doing honor to and enlarging the influence of an institution and a body of workers for humanity whose services have not, I think, been fully appreciated. You will doubtless express far more clearly and with tenfold weight my own estimate of Doctor Kellogg's and his staff's efforts in teaching the ignorant among us how to live that we may do well the work we are here for. In anticipation, may I associate myself with all you will say upon this.

I regret more than I can say that I cannot stand behind the venerable physician and public servant whose life is the best inspiration my imagination can conceive for those who wish, as I do, that the Conference may mark a memorable departure in philanthropic endeavor.

MISS M. E. BINGEMAN, Board of Education, Rochester, New York.

The city of Rochester, N. Y., has just adopted a new point of view in this matter of municipal responsibility. It is beginning to see that as it suffers economically from premature death, from unnecessary inefficiency and unnecessary sickness, and that because these three things are due in a general way to ignorance, it is the function of the city to place within the reach of every person in Rochester the necessary knowledge. Up to this time, people have obtained their knowledge about these things in a haphazard way. They obtained it from hearsay; they obtained it from the newspapers and

from magazines. At the same time, from these same sources they obtained very mistaken ideas. In sorting it for themselves, they are not in a position to do it intelligently. In Rochester, the Women's Educational and Industrial Union sent a petition, signed by three thousand pastors, to the Board of Education, asking them to furnish instruction in physiology, hygiene, nursing, first aid, dietetics, and things of that description. The Board of Education has agreed to do this. Beginning next Monday, such a course is to be offered in the high school of the city. There will be a course of twelve weeks, two lessons a week, one by the doctor and one by the nurse, of an hour each, and in this course there is to be taught physiology and the care of the child from birth to two years, from two years to twelve years, hygiene, psychology of adolescence, first aid, emergencies, causes of disease, prevention and recognition of disease, rational principles for the cure of disease, household and civic hygiene, motherhood, and things of that description.

If the women of Rochester appreciate this course by attending, this work is to be enlarged, and every school in the city in turn is to have this instruction offered, so that by and by this instruction will be placed within walking distance of the women of the city. There are to be classes whenever the women can come in—forenoon classes, and, if there is a demand for it, afternoon classes from four to five, and evening classes in the evening schools. We believe that in this way, with two teachers, one a doctor and one a nurse, we can reach six hundred women a year if the women are ready to do it.

There is no reason why that six hundred should not be sixty thousand if every other city does likewise.

COMMUNITY HYGIENE—WITH SPECIAL REFERENCE TO MEAT INSPECTION

REV. CAROLINE BARTLETT CRANE, A.M., Kalamazoo, Michigan.

If we may speak of the "birth of cities," it must be admitted that thus far eugenics has played but an unimportant part in their production. Cities are born of unions founded on love and propinquity—love of money and propinquity to the main chance. Cities, by their forebears affianced from birth to "Business," grow up to bring forth a brood of good and evil offspring. They are proud (sometimes not till years after) of their good offspring, while the

responsibility for the evil offspring they lay onto the mother, saying "Business is Business." When the evils become too numerous and fierce, so as even to interfere with beloved "Business," this tyrannical dame consents, perforce, to the espousal of Hygeia, as a sort of supplementary wife, to clean things up a bit.

And here is where and how Community Hygiene begins—outside of a few modern and "model" industrial-and-army-camps, which are the only eugenically-*born* communities we have.

The genesis of certain important items of Community Hygiene is strikingly illustrated in a far Western state, where recently I made a sanitary survey of twelve cities. At this moment, in a community of some seven thousand persons, a typhoid epidemic is raging which has laid low more than two hundred persons in the first fortnight, out of which number nine are now dead. Fresh cases are developing daily. This epidemic is the natural and to-be-expected outcome of a domestic water supply taken from a stream polluted by the sewage of another community. For years the State Board of Health has endeavored to persuade the city to purify the water. At the same time it has been endeavoring in vain to persuade the State Legislature to pass a Water and Sewage Bill (similar to that now in effect in Pennsylvania), which would make such an epidemic from such a source practically impossible. Now, after the event, the State Board has had to come in and take charge of affairs, because there is no city or county health organization worth mentioning. The State Board has installed an emergency hypochlorite plant, a supervision over milk and food, an emergency hospital and home nursing service; a systematic case-reporting scheme, a comprehensive clean-up campaign for the whole town, and free vaccination of all the well against the disease.

In another city in that state, where public health work in general is of an exceptionally high order, some twenty persons, mostly children, are daily receiving Pasteur treatment. More than forty human beings have been bitten recently by rabid dogs. The chief concern of the city council seems to be to prevent this damaging fact from getting abroad. To pass an ordinance for suppression of the cause of hydrophobia would be to advertise the damaging fact of its existence. The first mad dog ever seen in the state was brought from another state about a year ago. Rabies is now well entrenched in a dozen cities and in the rural districts all up and down the coast-side of that second state. In the metropolis of this same state some twenty-five plague-infested rats have been discovered within the last few weeks. The original plague-infested rats came by ship from Asiatic ports. The city has already burned down some 1,100

old buildings in a but partially successful struggle to be rid of rats.

These illustrations serve abundantly to point out the fact that no community lives unto itself alone; that community hygiene may depend in no small part upon the behavior of neighboring (but unneighborly) communities; upon state laws and their administration; upon national control of the movements of persons, animals, and things transported from one state into or through another, to the possible injury of public health; and upon such international regulation as may prevent the introduction into any portion of our country of disease or disease-producing factors from regions of the world beyond our direct hygienic control.

Therefore, a proper division of function, and proper functioning in each division of public health work is of vital concern to every community. The "leading citizen" in the fever-stricken little city above referred to, who was not afraid of the water because he had been drinking it for seventeen years, is now in the emergency hospital. But he *was* a leading citizen, and he led his fellow-citizens in a successful opposition to a Water and Sewage Bill which would have given the State Board of Health some warrant to interfere with their heaven-born right to drink whatever water they chose. Besides, to have sanctioned the requirement that the city higher up on the stream should treat its sewage before discharging it into the river, would be a pointed suggestion to the city below to require as much of them. And a sewage-disposal plant would mean a municipal bond issue; hence, not to be thought of.

But to the wise and discriminating person, it is evident that each community must not only do its own part, but it must maintain a partnership in public hygiene with other communities, under supervision of the state, which grants to municipal corporations all the rights and privileges they possess, and which may naturally be looked to to maintain substantial justice between these corporations; also, that states, and communities within states, may justly expect the national government to exercise strongly, in behalf of the general welfare, any power it may possess; as, for example, the power assumed to itself by what is known as the "Interstate and Foreign Commerce clause" of the Federal Constitution.

I have been asked by your Committee to speak this evening on "Community Hygiene, with Special Reference to Meat Inspection."

In such a scheme as I have described for division of health administration between city, state, and nation, where would one naturally expect meat inspection to fall? Meat shipped abroad would need to be inspected and certified by our Federal Government. Meat shipped from one state to another, becoming an article of in-

terstate commerce, would also fall naturally to inspection by the federal government. Meat slaughtered for consumption within the state might be inspected and certified either by the state or by the municipality in which it is to be offered for sale.

In an agricultural region such as surrounds thousands of cities and villages in the United States, one would naturally expect that the meat supply, like the milk supply, would be shipped in from the surrounding country, and that each city might protect itself against diseased or unwholesome meat by a proper ordinance and a proper system of inspection. I believe that the general police power conferred upon municipalities by most states includes the power to bar from entrance into the city any meat whose sanitary character or condition fails to comply with reasonable standards set by the city in question. Just as a city, before it grants a milk dealer's license, may send its inspectors across state lines to inspect animals and stables and milk houses and may even require the tuberculin test to be administered to cows, so a city may (and a few cities in this country already do) require that all meats sold therein shall either be slaughtered under municipal inspection, or the carcasses elsewhere slaughtered shall be subject to inspection before they are admitted to sale in the city.

As a matter of fact, local meat inspection has lagged very far behind local milk inspection, and federal meat inspection is generally looked to in this country as a protection against diseased and otherwise unwholesome meat and meat food products. Federal inspection, however, was not instituted for the sake of protecting the American consumer. Nearly thirty years ago foreign countries which purchased enormous quantities of American meats, began to put restrictions upon our meats, especially pork, because of evidence of disease. These countries, which carried on a systematic inspection of their own meats, demanded that American meats should be inspected and certified before they could be admitted to their markets. Thus, federal meat inspection was inaugurated twenty-three years ago, not as a protection to American consumers, but to restore to American packers an enormous but rapidly vanishing foreign trade.

Federal inspection assumed to cover all meat shipped in either foreign or interstate trade, since inspection was instituted under sanction of the "interstate and foreign commerce clause" of the federal constitution. But we find by admissions of later years that only a small percentage of interstate shipments was inspected. However, the government guarantee, "U. S. Inspected and Passed," was found to be a valuable asset, giving the great packer yet one more

advantage over the local independent butcher, and from year to year more and more of the meat shipped interstate has borne the federal stamp. Both the Department of Agriculture and the packers have made strenuous efforts to instil into the American mind the belief that the stamp, "U. S. Inspected and Passed," is a safe guarantee of the entire wholesomeness of the meat.

Were this true, we might well prefer the guarantee of our national government to that of any city or state.

But it is not true.

We all recall the "Jungle" expose of 1906, followed by a storm of popular disgust and indignation, a new law, new regulations and a new meat inspection appropriation of three million dollars granted by Congress for the express purpose of protecting the American consumer. Since that time, the Department of Agriculture and the packers have redoubled their efforts to win the confidence of the American people. Many official bulletins and popular articles have been issued, describing and guaranteeing the inspection, and it is argued that if the most particular and suspiciously-inclined countries in the world accept our government guarantee, surely the people of this country should do the same.

But the fact is that the "most particular countries" do not accept our meat inspection certificates without reservation or without requiring tell-tale organs and glands to be left in their natural attachments for reinspection at the point of entry, and that we have never regained the degree of European confidence which was lost in 1906.

Furthermore, Americans should know that when a foreign government or purchaser does accept the meat inspection guarantee of our government, it is a different and vastly better guarantee than our government gives to the American purchaser. In the very law of 1906 is a cunningly hidden clause which requires the inspection of the animal while it is alive, as well as the inspection of the carcass, of all meat which goes abroad, by virtue of the fact that no vessel can get clearance papers if it has on board any meat from this country unless there is a certificate from the Department of Agriculture saying that this meat, and also the animal from which it was taken, has been inspected by federal inspectors and has been found sound, wholesome, free from disease, and fit for human food.

Now, for Americans, this is not required; there is no certificate—nothing except the stamp upon the meat, "U. S. Inspected and Passed." The meat which goes abroad is really above the Regulations, because the Regulations themselves permit the passing of carcasses of animals which on inspection proved to have tuberculosis

distributed in several different portions of the body. The same with lumpy jaw; the same with animals which are affected with tape-worm cysts and with other parasites; the same with animals which are affected by cancer, and many other diseases. The Regulations require the cutting out of the visibly diseased portion before the carcass is released for food. However, I fancy that I need not argue with this audience the danger of this proceeding. Take cancer, for example:

Since we do not know the cause of cancer nor its method of transmission, we are entirely unable to say that there is *any* stage of the disease in which any of the meat of such an animal could be safely eaten. When we reflect upon the effect of even a fourth of a grain of morphine upon a human body of two hundred pounds, upon the inconceivably minute quantity of tetanus toxin which will cause death, think how small a portion of the cancer cells, or toxins, or whatever it is, might suffice to cause death; when we reflect upon the terrible nature and increasing frequency with which it affects the stomach, intestines, liver and other organs of the human abdominal cavity, how is it possible that such a "Regulation" as this shall be allowed to stand?

If you will procure the Regulations of the Bureau of Animal Industry of the Department of Agriculture (which were issued May 1st, 1908, and are the latest Regulations), you will find that what I say is true, that these very Regulations permit the passing of the meat of animals which, from my standpoint, at least, are seriously diseased. But the certificate which is required to be sent with meat which goes abroad would preclude the export of such meat unless it is acknowledged that the export certificate is false. Therefore, Americans are discriminated against through the very law which was supposedly enacted for their special protection.

Not only is it true that there exists this discrimination against Americans in the law and in the printed Regulations, but, also, this fact: Within a few months following the new law of 1906, the Chief of the Bureau of Animal Industry began to issue special instructions to inspectors subversive of the Regulations and even of the law under which the Regulations were drawn. These special instructions were carefully guarded from public knowledge. This is made evident, not only from the prefatory notes placed at the top of these confidential circulars, cautioning employees against giving or showing copies to outsiders, but, also, by the contents of these circulars, which are such as discretion would naturally lead the Bureau to keep from knowledge of the public. An instance

or two will best serve to illustrate the character of these circulars called "Service Announcements."

The Regulations prescribe that any organ or part of a carcass which is the seat of a tumor, malignant or benign, or of abscesses, suppurating sores and the like, shall be condemned. But a "Service Announcement" authorizes cutting out "benign" tumors and other benign affections, and passing the remainder of an "otherwise sound and fit organ." However, about a year later, in another "Service Announcements" (Oct. 15, 1909), Chief A. D. Melvin, of The Bureau of Animal Industry, relates that some five hundred and eighty (580) cases of livers, bearing the stamp "U. S. Inspected and Passed," have been seized and condemned by port medical officers in England, because from twenty to thirty per cent (20% to 30%) of the livers were mutilated and were therefore held to be diseased. Wherefor, Chief Melvin notifies all inspectors that they are not hereafter to certify *for export* livers and similar organs from which portions have been cut out. All these delicacies were to be reserved for home consumption. If we are to run such risks, have we not a right to be forewarned by knowing what the regulation and practice really are; and, also, it is hardly to be tolerated that we eat, not only our own quota of diseased and mutilated organs, but Europe's quota also. Dr. W. A. Evans, former commissioner of health in the city of Chicago, was asked recently in his *Chicago Tribune* column, whether a fish which has a cancer was fit to eat. He replied that no one would eat a fish which has a cancer if he knew it. I doubt if the general public would be any more willing to eat the flesh of cancerous cows and hogs. Yet the federal Regulations permit the stamping of such carcasses "U. S. Inspected and Passed."

The Regulations specify that the head and tongue of all lumpy-jawed cattle shall be condemned. But secret instructions authorize inspectors to cut out mild ulcers from lumpy-jawed tongues, and pass the tongues; and a veterinary inspector who followed me on the witness stand at the Nelson Meat Inspection Hearing * told of

* The dates and full text of the "Service Announcements" and other orders here quoted may be found in Mrs. Bartlett Crane's published testimony in support of Nelson Resolution, 512, before the House Committee on Expenditures in the U. S. Department of Agriculture, May 8, 9, 10, 11, 1912; also in a series of articles on "U. S. Inspected and Passed" by her, published in the March, April, May, June and July (1912) issues of *Pearson's Magazine*. Also, in an address delivered before the City Club of Philadelphia and published in their March, 1913, Bulletin. A lengthy review of the Pearson's Articles, by Mr. Samuel Hopkins Adams, appears in *The Survey* for Sept. 6, 1913.

being required to cut such deep ulcers out of tongues that great gaping holes resulted. At the conclusion of an address last July before the City Club of Tacoma, a leading local packer arose in the discussion and emphatically challenged my statements about the passing of mutilated organs and lumpy-jaw tongues. He was certain that nothing of the kind was done by federal inspectors. That afternoon, accompanied by several persons, including the wife of the Mayor and a state and a city food inspector, I found in the leading market in Tacoma, mutilated "U. S. Inspected and Passed" livers, and a tongue bearing the same stamp, with a large deep conical hole at exactly the point where lumpy-jaw erosions usually occur. This tongue was purchased and when the Mayor introduced me at a mass meeting that evening, he caused this tongue to be placed where any curious persons (including the Tacoma packer) could procure a free view.

Much stress is rightly being laid today upon the well-known practice of adulterating sausages by a large per cent of kiln-dried cereal which will soak and hold an immense quantity of water. This is a fraud which greatly lessens the food value. And yet, I fancy, if people knew what *else* goes into federally inspected and certified sausages, it might tend to reconcile them to bread-stuffs and H₂O. The "Service Announcements" give much new and needed light on this mystery which has long enshrouded the composition of sausage. In 1910 the Department decided that cows' udders and hogs' lungs should no longer go into sausage. But hog skins, palates, snouts, ears, ox-lips, hogs' spleens, stomachs, and livers are specifically mentioned as permitted ingredients of sausage.

As to sausage casing: The Regulations condemn intestinal casings affected with worm nodules, but by a "Service Announcements" of July 15, 1910, it is permitted to scrape off worm nodules "which are in such a stage of development as to be readily removed." In "Service Announcements" we also learn facts about packers' wilful but unpunished breaking of government ear seals and the manufacture and use of government inspection labels on uninspected meats; and palpable evidence of the packers' hand in the administration of the meat inspection service. At the same time, we learn of a small offender (not a packer) who shipped seventeen veal carcasses, some of which were immature, across state lines and who was fined five hundred dollars and sent for a year to the federal prison in Atlanta.

I have but given illustration of the general character of these confidential circulars to inspectors; not only "Service Announcements" but also other series of circulars and typewritten and mimeo-

graphed instructions which not even a demand from Congressman Nelson could procure from James Wilson, when he was Secretary of Agriculture. Then there are the "summer school instructions to inspectors" signed by A. D. Melvin, still, I regret to say, Chief of the Bureau of Animal Industry. Among the "decisions" promulgated by him in this school in 1909 is that on the carcass of a cow with tuberculous lesion in bronchial, mediastinal, and mesenteric glands, and "several small nodules, size of a walnut, in each lung." "Disposition—Food."

The Department claims that its Regulations have the endorsement of a commission of eminent scientists. I have fully answered their claim in my testimony and published articles. It must suffice here to say that the opinions of a majority of the commission were ascertained before they were appointed by the Department under investigation; that several of them were or had been connected with the Bureau Service; that a very strong preliminary statement was made to them of the necessity of saving from destruction as much meat as was safely possible; that the packers knew of this meeting and had their representative there; that, apparently, no one was present to represent the people; that this Commission drew very fine scientific lines, presupposing a quality of inspection such as, in fact, is never carried out, nor even alleged to be carried out, in any packing establishment I have any knowledge of; that by the skilful change and omission of a few words the recommendations of the Commission were emasculated of their most vital safeguards; and, that, by numerous secret orders made thereafter, they were further set at naught; notwithstanding which the Bureau goes on quoting the Commission of 1906 as if it endorsed every practice of the service up to the present hour.

How much, if any, real reform has taken place in this debauched meat inspection service since the beginning of the new administration, I am unable to say. So long as the man who has allowed things to come to such a pass is still Chief of the Bureau of Animal Industry, I am wholly unable to believe that we will ever have a federal meat inspection service in the real interests of the American consumer.

But we are not necessarily dependent on federal meat inspection. The remedy is to make meat inspection a detail of Community Hygiene. There is no advantage from a sanitary or economic viewpoint in shipping cattle a thousand miles or so to a packer to be slaughtered, then shipping the meat back, with all the attending loss and deterioration and the increased prices. We want to foster local packing houses and local stock yards. We want to build up the

stock-raising industry around about our own communities. We must not expect help by getting our meats from Argentina. The great American packers having skimmed the cream off the beef-producing industry in this country, have established themselves early in South America, and today hold the balance of control in those countries and are not going to ship meat to this country to compete with their own prices here, as long as they have a good market for South American meat abroad. We want to cultivate our own stock-raising industry, a commercial as well as sanitary benefit to all our people.

Then we should *let the label tell the truth*, whether upon locally or federally inspected meat. If there are people willing to eat meat from tuberculous and cancerous carcasses, let them; but let them also know what they are eating by the use of a special stamp or designation which conveys that knowledge. However, let us demand that persons who wish to eat meat—but only if it is from animals free from disease—may have the means of knowing how to obtain such meat.

We should do all we can to bring about a reform in our disgraced federal service; but, also, we should promote local inspection of a high order. In Paris, Texas (the home of the first real municipal abattoir in this country), in Montgomery, Ala., and recently in Charleston, S. C., are three good examples of what may be done through local inspection. It is for any community to put the standard just as high as it will. In the matter of a milk supply, each city may decide for itself how many bacteria per cubic centimeter will be allowed, and all other details of milk inspection. In the same manner, a city can decide exactly what standards it will have for its meat supply. Here is a department of "Community Hygiene" which has been long and most unjustifiably neglected and one which I earnestly commend to this Conference, and to all members who feel an interest in the purity of the public food supply, the purity of governmental administration, and the prosperity of agriculture in this country.

THE NATIONAL DEPARTMENT OF HEALTH

Introductory Remarks

PRESIDENT STEPHEN SMITH, M.D., New York, N. Y.

The history of what was called the National Board of Health dates from 1878 to 1884. The agitation for it began as early as 1873, and originated at the first meeting of the American Public Health

Association, which had been organized for the purpose of co-ordinating all the different boards of health of the country, as far as possible, in general work, and the promotion of the public health.

During that period the opinion prevailed that there should be not only a municipal authority and a state authority, but also a national authority—very much on the plan of the organization of the general government; that is, a municipal board of health confining its activities to the city, a state board to the state at large, and a national board to those interests that affect the community generally, but with which neither the municipal nor state boards deal. The first suggestion was made by the then health officer of the city of Washington, who was prominent in the first movement to organize a national board of health, but it took no form, nor was there any organized plan of securing a national board until considerably later.

The greatest obstacle to a National Board was the State Rights idea. There was a disposition on the part of the members of the Congress to ignore altogether the possibility of a board of health that in any way should interfere with local boards, state and municipal. The objection to the board was altogether wrong in that respect. It was not intended by those who were in the original movement to interfere any further than the national government now interferes with the affairs of states and cities. Not much headway was made for several years, but when the great epidemic of yellow fever in 1878 came, its ravages were so great that neither the municipal nor state boards in the South could control it. There was a call for general aid, not from the government, but from voluntary organizations. Among the contributors to that fund was a Mrs. Thompson, of New York, with very large ideas as to her duty in the use of her wealth. She contributed a very large sum to what was then known as the Marine Hospital Service, the head of which at that time was Doctor Woodward. He was deputed rather to use that fund in the South, as far as possible, in relieving distress and promoting efforts to control the progress of the epidemic. Through him there was a commission sent out to visit the South after the epidemic had subsided, and to study the question of yellow fever and its *prevention*. Mrs. Thompson made prevention a special feature of her donation, urging that the cause of yellow fever be sought and legislation secured or such action as was necessary to prevent the invasion of yellow fever from that time forth.

The idea gradually took root in the minds of sanitarians that there was a need of a great deal more thorough work, not so much in an investigation of the results of the yellow fever epidemic, as in

methods by which control could be exercised over the quarantines of the country in preventing the admission of yellow fever.

The first bill introduced into Congress was in 1879. I drew the bill on the plan of the Agricultural Department, which was then a comparatively new body and had as the chief officer a member of the Cabinet. The plan fitted exactly the idea we had of what a national board should be. It provided for a Minister or Secretary of Health, who should be a member of the Cabinet, and provided that the organization should take the form of a Department of Government in the general work of promoting public health, in coordinating as far as possible all the energies of the country to prevent epidemics coming, and to control all our quarantines. It was introduced into the Senate by Senator Lamar, of Mississippi, but it went into the pigeon-hole of the committee and never appeared again. Toward the close of that epidemic the South became very much changed in regard to the State Rights doctrine. The authorities found they had to call on the country at large for help. The question arose, Why should not the national government aid us in these extremities? State Rights—the popularity of the old doctrine of State Rights—gradually subsided under the pressure of the epidemic and its devastations all through the South, and in 1879 the opinion had become very strong that Congress should take some action. A bill was then prepared that created a National Board of Health, but it was drawn in such form as to be of temporary effect. It was rather a board for investigation, to study the question as to whether there should be a National Department of Health. It had the power of investigation and it had an appropriation, I think, of \$50,000 for this temporary work. It was at first limited to one year of existence, but finally it was allowed a lifetime of four years. It did a very great work in the way of general investigation as to the conditions of our quarantines, published a good deal of matter on that subject and most of the quarantines were visited. I visited a large number with the committee, and prepared a report that proposed that all the quarantines of the country should be placed under national authority and all should be organized on a like effectual basis. Many quarantines were useless. Perhaps the worst managed in the list was the one at New York. The suggestion that quarantines should be under the general government had considerable force and has gradually been really carried out.

The Marine Hospital Service, naturally jealous of its powers—although it did not have under this original construction any health duties to perform—began to agitate the question, Why should not the Marine Hospital Service control these quarantines? The Secretary

of the Treasury, in 1880, I think it was recommended that the Marine Hospital Service should organize and manage quarantines where none existed. That was the beginning of a national authority governing quarantines. It has now gone so far that they are very largely under the management of the Marine Hospital Service, and are in infinitely better condition than they ever were before. They ought all to be put under a national authority, with such rules and regulations as those that govern the quarantines of Great Britain, the best organized, probably, in the world.

In 1882, the Marine Hospital Service applied to the Secretary of the Treasury to have that fund of the National Board transferred to its use. Under the direction of President Arthur, this fund was turned over to the Marine Hospital Service, which act deprived the National Board of all means of active duty. Practically that was the end of the National Board.

THE NATIONAL DEPARTMENT OF HEALTH

HENRY BAIRD FAVILL, M.D., Professor of Therapeutics, Rush Medical College; Chairman Committee on Health and Public Instruction of the American Medical Association, Chicago, Illinois.

In discussing the proposition of a National Department of Health before this Conference, I assume that it is unnecessary to occupy any time in presenting arguments for the necessity or importance of such an addition to the Executive Department of the Government. It is equally unnecessary to present arguments in justification of this movement or in refutation of the objections and criticisms which have been advanced by its opponents, or to devote any time to the discussion of a Bureau vs. a Department, or to the exact details of organization or of subdivision of such a Department.

As the Chairman of the Council on Health and Public Instruction of the American Medical Association, the only justification for my appearance on the program on this subject is to present the attitude of the organized medical profession. On this subject there is not and never has been the slightest uncertainty. When the records of the American Medical Association for the past sixty years are reviewed critically, one cannot but be impressed by the remarkable unity of purpose which has characterized the profession through successive generations. The first important point, therefore, to which I wish to call your attention is that the American Medical Association, as representing the scientific medical profession

of the United States, has throughout its entire history stood uncompromisingly and unequivocally for a National Department of Health as a part of the executive branch of government. The first mention of such a plan appears in the proceedings of the American Medical Association for 1871, shortly after the organization of state boards of health in Massachusetts and California, the proposal first taking the form of a voluntary council made up of representatives from the various state boards of health. In the following year, however, a resolution was presented, asking Congress to establish a National Sanitary Bureau. In 1873, the President of the Association stated that a bill for this purpose had recently been introduced into Congress. In 1874 the question was discussed by the Chairman of the Section on State Medicine under the title "The Waste of Life," in which most of the subjects which would now be regarded as coming under the conservation of human vitality were considered and the organization of state and national departments of health was urged. During the following years discussion of the questions continued, and various bills were introduced in Congress, culminating, in 1879, in the adoption of a bill introduced by Mr. McGowan, of Michigan, establishing a national board of health, one of the duties of which was to report to Congress a plan for a National Health Organization. This board, for various reasons, failed to take advantage of its opportunities and, in 1883, went out of existence, through the failure of Congress to make any appropriation for its maintenance. In 1886 a bill was introduced in the House of Representatives by Hon. Robert T. Davis, of Massachusetts, providing for a Bureau of Public Health in the Department of the Interior. In 1891 a bill was introduced in the Lower House providing for a Department of Public Health to include the Marine Hospital Service, the Bureau of Education, the Divisions of Vital Statistics, Animal Diseases, and the Weather Bureau. In 1892 a bill was introduced in the Senate by Hon. John Sherman, of Ohio, and in the House of Representatives by Hon. John A. Colwell. In 1897, what later came to be known as the Spooner Bill, was introduced in the Senate by Senator Spooner, of Wisconsin, and in the House of Representatives by Mr. Otjen. None of these bills went further than the Committee stage. At the 1907 session of the American Medical Association, the Committee on Medical Legislation reported that a preliminary draft of a bill creating a National Department of Health had been drawn up by Doctor Barshfeld, a member of the Lower House from Pennsylvania; that the American Association for the Advancement of Science had created a Committee of One Hundred on National Health to consider

methods for establishing a National Department of Health: that the draft of Doctor Barshfeld's bill had been turned over to Prof. Irving Fisher, President of the Committee of One Hundred, in order that it might be redrafted by some legal member of that Committee. The Reference Committee recommended and the Association voted that the details of the plan be left to the Committee of One Hundred, to which the Association pledged its support.

There was no further agitation on the subject until Feb. 10, 1910, when Robert L. Owen, Senator from Oklahoma, introduced into the United States Senate, S. B. 6049. This bill, the original Owen bill, provided for a Department of Public Health, under the supervision of a Secretary of Public Health, who should be a member of the cabinet. In this department should be assembled all divisions and bureaus belonging to any department, except the Department of War and the Department of the Navy, affecting the medical, surgical, biologic and sanitary services, including the Public Health and Marine Hospital Service, the Revenue Cutter Service, the Medical Staff of the Pension Office, Indian Bureau, Department of the Interior, Old Soldiers' Homes, Government Hospitals for the Insane and the Freedmen's Hospital, the Bureaus of Entomology, Chemistry and Animal Industry of the Department of Agriculture, the hospitals of the Immigration Bureau of the Department of Commerce and Labor, the Emergency Service of the Government Printing Office, and all other agencies in the United States Government for the protection of human or animal life. This bill undertook the organization of a Department of Health by assembling existing parts of the government machinery in a new department, instead of creating a department *de novo*. The Department of Public Health was given jurisdiction over all matters within the control of the federal government relating to human or animal health and life. The establishment of bureaus of biology, chemistry, veterinary service and sanitary engineering was authorized. This bill was referred to the Senate Committee on Public Health and National Quarantine, before which were held during the year following its introduction a large number of hearings. It was never reported on, and died in committee with the expiration of the Sixty-first Congress.

The Second Owen bill (S. 1) was introduced by Senator Owen, April 6, 1911. This bill provided for a Department of Health, presided over by a Director of Health and an assistant to be known as the Commissioner of Health, both to be appointed by the President. The commissioner was required to be a skilled sanitarian. The director was to be an executive officer. The Department of

Health was to foster and promote all matters pertaining to the conservation of public health, and to collect and disseminate information relating thereto. It was expressly provided that this department should not exercise any function belonging to a state without express invitation from the governor of the state, or enter any premises in any state without the consent of the owner or occupant thereof. These two provisos were to meet the objections of the advocates of State Rights and personal liberty. To this department were to be transferred the Public Health and Marine Hospital Service from the Department of the Treasury, from the Department of Agriculture that part of the Bureau of Chemistry charged with the administration of the Food and Drugs Act, and from the Department of Commerce and Labor the Division of Vital Statistics of the Bureau of the Census. The President was authorized to transfer at any time, either in whole or in part, any bureau or division of the government engaged in work pertaining to public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy. Provision was made for the organization of the following bureaus: Sanitary Research, Child Hygiene, Vital Statistics and Publications, Foods and Drugs, Quarantine, Sanitary Engineering, Government Hospitals and Personnel and Accounts. An advisory board of seven was provided for, and provisions were made for cooperation with the health authorities in the various states.

This bill was referred to the Senate Committee on Public Health and National Quarantine, where it remained for almost a year, at the end of which time it was reported on favorably, but with amendments that practically amounted to a new bill. As reported out of the committee, April 13, 1912, the bill provided for an independent establishment known as the United States Public Health Service, with a Director of Health as the head. Under the director were to be three assistants known as commissioners of health, two of whom were to be skilled sanitarians and one a skilled statistician. The present heads of the Public Health Service, the Bureau of Chemistry and the Division of Vital Statistics were constituted the three commissioners. The duties of this health service were practically the same as those in the previous bill, with the proviso that the health service should have no power to regulate the practice of medicine or to interfere with the right of any citizen to employ the practitioner of his choice, and that all appointments should be made without discrimination in favor of or against any school of medicine or healing. These restrictions were inserted in order to meet the objections of those who thought that the liberty of the individual in

selecting his medical attendant would be interfered with. The bureaus created were slightly different from those in the preceding bill, being bureaus of the Public Health Service, Foods and Drugs, Vital Statistics, Child Conservation, Sanitary Engineering, Personnel and Accounts, and Publications.

Following the report of the committee, April 13, 1912, the bill was placed on the Senate calendar as Calendar No. 561, where it remained until Feb. 3, 1913, when it was called up on motion of Senator Owen that the Senate proceed to the consideration of this bill. On this motion the vote was a tie, 33 to 33. The bill was, accordingly, not taken up, and died at the expiration of the Sixty-second Congress.

April 7, 1913, in the opening sessions of the Sixty-third Congress, Senator Owen introduced as Senate Bill 1 a third bill. This bill was referred to the Senate Committee on Public Health and National Quarantine.

In the light of this record I feel justified in advancing the following propositions as generally accepted:

1. The necessity of some central federal health organization is agreed upon by all those familiar with the situation.

2. While recognizing the paramount importance of state activities, owing to our existing form of government, the importance of federal activities cannot be overestimated.

3. The initiative of the present movement is largely due to the activity of the American Association for the Advancement of Science in the organization of the Committee of One Hundred, which movement has been, from its beginning, endorsed and supported by the American Medical Association.

4. The American Medical Association is and always has been fully committed, by its repeatedly expressed opinion and official records, to the support of a National Department of Health.

While the direct results secured by the efforts of the past forty years may not be entirely gratifying to the friends of this movement, the indirect or reflex effect of the continued agitation for better public health organization has been the stimulation of public health functions, both of the federal government and of the various states. It is safe to say that the present United States Public Health Service would never have reached the present state of effectiveness without the stimulation of the agitation and discussion of this question which has been carried on. Organized in 1789, there was very little change in its function or activities for nearly one hundred years, its work being limited to the care of the sailors of the Merchant Marine. In 1871 Congress placed the supervision of national

quarantine in the hands of the Service. In 1899 the name was changed to the United States Public Health and Marine Hospital Service. The medical service was reorganized, the hygienic laboratories were established, and in 1912 the name was again changed to the United States Public Health Service, and the medical officers were placed on the same basis as those of the Army and Navy and the functions of the Bureau were considerably widened.

The part which the American Medical Association has taken in the campaigns and discussions of the past four years are too well known to require recital.

Following the advent of the new administration and the calling of a special session of Congress last April, a conference was held in Washington on Monday, May 5, attended by the Council on Health and Public Instruction, and the Special Committee on National Health Legislation of the American Medical Association and the Executive Committee of the Committee of One Hundred of the American Association for the Advancement of Science. After protracted discussion, Professor Fisher formulated a program which was unanimously adopted. This program included the following points:

First: Appoint a committee to see President Wilson tomorrow, May 6, at 10.45, and communicate to him the results of our conference and request him to decide upon an administration policy concerning public health legislation.

Second: Recommend to President Wilson that he definitely advocate the establishment of a Department of Health.

Third: That he cooperate with Representative Foster in attempting to secure a Committee on Public Health in the House of Representatives during the present special session.

Fourth: That he call a White House Conference on Public Health next fall somewhat similar to the Governors' Conference on Conservation called by President Roosevelt. The object of this conference is to promote the success of the President's policies and if necessary to aid in framing these policies.

Fifth: That at the next regular session the President should send a special message favoring public health legislation or else emphasize it in his regular annual message.

Sixth: That the President should select for the first assistant Secretary of the Treasury someone interested in public health.

Seventh: That in the next regular session we should support the President in securing such public health legislation as he decides to recommend.

I call your attention to the fact that the program adopted by

the representatives of the American Medical Association and the American Association for the Advancement of Science pledged these two bodies to the support of such a program for public health legislation as President Wilson may see fit to recommend at the next regular session of Congress, and that the record so far established by President Wilson in securing from Congress advanced and constructive legislation in accordance with a definite policy justifies the conviction that when this subject is next taken up in Congress, it will be as an administration measure having the support of the dominant party in both Houses of Congress and the approval of the general public. In the meantime and in anticipation of such a situation, the Council of the American Medical Association is going steadily forward in its campaign of public education on health topics, recognizing the fact that an active and intelligent public interest and support is of the first necessity in securing the establishment of this Department of Health, for which the Association has steadfastly stood during its entire existence.

WHAT THE UNITED STATES PUBLIC HEALTH SERVICE IS DOING FOR RACE BETTERMENT

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I had no intention of reading a paper or speaking before this assembly until a day or two ago. I was delegated to attend this meeting. I was told at that time that I was not to read a paper, but that I was simply to be here and hear what was to be said. But one of your officers asked me a few days ago to write something on what the Public Health Service is doing in the matter of race betterment, and I could not very well refuse, although what I have to offer will be very short and perhaps not very interesting.

The importance of eugenics to the welfare of the state or nation was recognized by statesmen, philosophers, physicians and poets in the early Grecian civilization and has, since that remote period, engaged the attention in some degree of the governments and the people of various nations.

The measures that have been taken, or that have been recommended for race betterment, are as numerous and varied as are the opinions of the present day as to what is the chief factor in race improvement. In the dialogues of Plato, in his construction of a perfect republic, he provides for the improvement of the race by requiring that perfect men shall marry only perfect women, and the imperfect type of men shall marry only the imperfect type of

women. That the proper officers will take the offspring of the good parents to the fold and deposit them with certain nurses in a separate quarter, but the offspring of the infirm, or of the better class when they chance to be deformed, will be put away in some mysterious, unknown place, as they should be. He further provides that the proper genetic period for man is from twenty-five to fifty-five years, that for women twenty to forty-five, and that children born after these ages of the parents respectively, shall be kept separate. These ideas would hardly meet with popular approval at this time, any more than they did in the time when they were first written, but there are intelligent men in this day who, with some modifications, hold similar views as to race betterment.

As previously stated, opinions now differ as to the principal factor in race improvement and any one of the following is frequently offered: education, physical training, religious instruction, medical instruction, temperance, chastity, proper mating, sanitary environment during childhood, hygienic diet, clothing and housing, social reform, especially in the way of amusements for all ages; proper marriage laws, laws to prevent the multiplication of the weak-minded, criminals, and those who have been insane, by sterilization. Undoubtedly all of these may be useful—at least under certain conditions—and come within the broad scope of the term eugenics, now usually defined as race betterment. However, in our own minds, when we think of the urgent necessity of doing something in this direction, the foremost argument is the rapidly increasing number of insane, feeble-minded, degenerate, and other mental defectives that are becoming a heavy burden upon the state or a menace to society at large. Then we examine carefully as to the cause of this increase in the number of insane, feeble-minded, degenerate, etc., and find evidence that leads us to believe that in many of these mental defectives the cause can be traced to some disease, inherited or acquired.

There is, however, no evidence of disease, acquired or inherited, in very many similar cases, so that the preventive measures which we would adopt in one class would not or might not be equally serviceable in the other. Such diseases as chronic alcoholism, syphilis, excessive venery or gonorrhea are frequently attributed as the original or primary cause of the degenerate or mentally defective. It is not always possible to trace inherited diseases; they may not be evident in several generations and then reappear in some form in some one of a later generation. The Mendelian laws of heredity, I believe, are applicable to certain transmitted diseases, as well as to peculiar traits of character and normal physio-

logical development. While this is true, it is equally true that in a large majority of the insane, degenerate, or other mental defectives, we do not know the actual cause or origin of their deficiency. There may be other diseases or nervous conditions that at present we know nothing of, which retard mental or physiological development. It is but recently that the cause of the mentally and physically indolent among the poor in some of the Southern States and in Porto Rico was known to be due to uncinariasis, or hookworm.

I merely mention a few of these well-known facts with the view of showing the complexity of the subject and of the difficulties in the way of attempting to accomplish at once the ideal or desired result by any single method or remedy. Uniform and proper marriage laws that would prevent the innocent from contracting disease and that would tend to improve the offspring are desirable; but syphilis and other venereal diseases may be, and often are, contracted by men and even women who were free from the disease prior to marriage. Therefore to eliminate syphilis as a cause of mental and physical degeneracy, one must resort to education as to the terrible results of this disease, to religious and moral education, and to preventive medicine and therapeutics.

Special laws to prevent the propagation of defectives, such as the chronic insane, the feeble-minded, epileptics, the degenerate and habitual criminals, would accomplish much in the way of race betterment provided they could be wisely drawn and wisely executed. There are, however, many difficulties to be overcome before the successful accomplishment of this end. I believe a few states have laws authorizing the sterilization of defectives, and that these laws have never been executed. The laws may be defective, or unconstitutional, or public opinion may oppose the enforcement of the same. Legislation has been enacted in many states for the purpose of preventing the spread of venereal diseases by marriage, but many of these laws have not been carefully or wisely prepared and are faulty. In legislation, as well as in social reform work intended for race betterment, in which individual liberty is concerned, it is essential that we first have an actual knowledge or some understanding of the evils which we are endeavoring to remedy.

Further scientific investigations are necessary to accurately determine the causes of the various forms of insanity and other mental defects, and the cause of their rapid increase in number, and also the best method to be adopted to prevent their multiplication. That which is now actually known should be frequently published, and the public educated in all matters relating to their physical, mental,

and moral well-being. Public discussion of the subject in which men and women of national reputation take part, which may appear in the public press, would do much to educate the public and advance the cause of race betterment.

As the wisdom and stability of the government rests upon the intelligence of the people, the government should, in its legislative and administrative functions, do everything possible to promote race betterment, and it is doing much in this direction at the present time. I have been asked to say something as to what the United States Public Health Service is doing for race betterment, and I will mention some of the public health work that is being done by the officers of the Service which tends to race betterment. In fact, it might be broadly stated that all public health work promotes race betterment. Under the direction of the Surgeon-General, medical officers of the Service are constantly making investigations throughout the country as to the cause of unusual outbreaks of disease, publishing and distributing the result of their investigations. When the state or municipality in which the disease occurs, requests it, they aid the state or municipal health authorities in the suppression or eradication of diseases. As examples to illustrate some of this work I will mention the pellagra investigation now being made in several Southern states; sanitary investigations as to the prevalence of malarial fevers in certain Southern states; sanitary investigations as to the cause and prevalence of hookworm diseases in the United States and Porto Rico, and the work of aiding in the eradication of the same. Investigations are being made as to the cause of various outbreaks of typhoid fever, diphtheria, infantile paralysis, typhus fever, Rocky Mountain spotted fever, etc., in the United States. Extensive examinations are being made of the waters of the Great Lakes and the rivers of the United States to determine the amount and character of their pollution. Complete sanitary surveys are being made of all dairy farms, including the production and transportation of milk, and the microscopic examination of the milk supplies of a large city. A report covering several hundred pages on this subject was published and distributed to the health authorities of the United States.

Under the National Quarantine Act the suppression of epidemics becomes the duty of the Service. In illustration of the work I will mention that done by the Service in the suppression of the yellow fever epidemic in New Orleans in 1905, and that done in San Francisco in the suppression and eradication of plague in 1909. Under the National Quarantine law the Service has established and maintains quarantine stations at the large ports of entry, to pre-

vent the entrance of epidemic diseases, and international border quarantine for the same purpose has also at times been established.

Almost from the beginning of this government, it has provided marine hospitals at the large ports of entry, where all American sailors could be cared for when they were sick or injured. The administration of these hospitals is one of the functions of the Service. There are, I think, some features of this hospital work that are closely allied with public health and eugenics, as, for instance, the isolation and cure of many cases of syphilis and tuberculosis. The Service has established a tuberculosis sanatorium in New Mexico, where tuberculous patients who have been received in United States marine hospitals are sent. The result of this climatic treatment is most satisfactory.

The establishment of the Hygienic Laboratory in Washington some years ago was a great and most useful advancement of the public health function of the government. In this laboratory there are a large number of medical officers constantly engaged in scientific research work in preventive medicine. Publication of their work is distributed to those interested in public health matters.

The Public Health Reports, issued in weekly numbers by the United States Public Health Service, contain morbidity and mortality statistics of contagious or infectious diseases collected in various countries throughout the world, also much other information relating to hygiene. These reports are distributed freely to all health authorities and others especially interested in public health matters.

The public health work of the medical officers of the Service in the Philippines, Hawaii, and Alaska, includes laboratory investigations of the many diseases peculiar to those countries.

The function of the Service most closely related to eugenics or race betterment (considering this country alone) is the exclusion from this country of immigrants who are insane or feeble-minded; those suffering from contagious, infectious, or loathsome diseases and other physical or mental defectives. This is a tremendous work, most difficult, and exceedingly important to the welfare of the nation. I can only mention it in this paper. The medical examination to determine whether there are any mental or physical defectives among the one million arriving immigrants at Ellis Island, New York, during a year (occasionally five thousand during one day) is, from the race-betterment standpoint in so far as it relates to this country, most important. To detect the feeble-minded and certain types of insanity without detention for observation is a problem. It is well known that expert alienists take considerable

time to decide whether certain cases are really insane. The necessary classification and sifting of those who are mentally defective, among immigrants whose language and conditions of life are so different from ours, is difficult, owing to the limited time allowed for the inspections. However, the medical officers engaged in this duty for a considerable period of time become expert in detecting, during the usual rapid inspections, either mental or physical defectives.

Officers of the Public Health Service frequently address public assemblies upon subjects relating to hygiene or preventive medicine, and take part in popular campaigns against disease such as tuberculosis, malaria, pellagra, etc.

I have but briefly outlined some of the functions of the United States Public Health Service which are concerned in race betterment and which in general are along the lines of hygiene. Admitting that proper selection in mating is an important factor in race betterment and that proper education of the people in this direction would be useful, I believe that environment and all that is included within this term has very much to do with race improvement.

THE COST OF HIGH LIVING AS A FACTOR IN RACE DEGENERACY AND LIMITATION OF FAMILIES

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I have to speak upon the subject of the high cost of living as related to race degeneracy. That it has an effect upon race degeneracy or race betterment, whichever it may be, I have no doubt. I think if we examine it carefully, if we go into it profoundly, we will find that the high cost of certain things will prove a benefit to the human race and not a disadvantage. For instance, if we could raise the diseased meats to such a high price that nobody could buy them, what a benefit it would be. If we could adulterate all whiskey only to such a degree that it would not intoxicate, or there would be practically no whiskey at all, and raise its price so high that no one could buy it, what a benefit that would be. There is much virtue in the high cost of food. We might apply this idea further. If the restaurants and cafes would only raise the price of banquets so high that even bankers could not have them, that also would be a very great benefit.

So we can well imagine that the high cost of living is not such an awful thing, after all; that is, the high cost of some kinds of living. Would it not be well if the government would take hold

of this subject? In every privilege of government the whole body of the people has a part to play without doubt. Suppose a government should take hold of this problem and, by some of its legal methods, which would be proper and reasonable, raise the prices of those articles of food which we know are degenerative and disease-producing in their tendency and lower the prices of those foods which we know are beneficial to mankind, it would build up the bodies of men as they should be built up, wholesome and well and strong. Would not this be well? It obviously would. And so we can readily see that the high cost of living, if it were only high enough in certain directions, would result possibly in race betterment, and if it could only lower the prices of the simple and plain foods so that they would be more in demand, and, in fact, if they were the only food that certain ones could get at all, how much better it would be.

We know full well that the European peasant is not to be pitied, not at all. He has a better time than we. I was recently surprised to find how much work men could do on plain food. I had occasion, at one time, as health officer, to investigate a railroad camp where there were a large number of "hunyaks," as they were called. I was at the camp and saw their dinner. All they had in the world was vegetable soup, some black bread and some raw cabbage, and those men could wield great heavy hammers all day long, could lift heavy ties, place them in the proper position, lift the rails into position, and work ten hours on that kind of food. And I thought that possibly if they had some of the higher-priced foods, how very likely they would be to go down.

In this connection, it seems proper to consider briefly the position of the doctors in this matter. In the matter of race betterment, we place too much faith in the doctor and in medicine. We think that medicines can undo the wrongs that have been done the body. Of course they can do no such thing. They cannot renew or remake broken organs. The physician does not know so much as the people think he knows; he is not so skilful as the people think he is, and they rely upon him too much; they have too much faith in him. They think, "Oh, I can overstep this little bound of right living this time, and I can go to the doctor and he will give me a paper and with that paper I will get a tablet and I can swallow the tablet and undo the indulgence." A vicious cycle it is in reality, and yet it exists and exists almost everywhere.

The whole situation is illustrated by a story. Once upon a time, a young man had earned a high position from the great hospital where he had been graduated in medicine, very high, indeed, and the time

came when he went to the hospital and claimed his position. They had a system. Down at the lower office was an expert diagnostitian—Doctor Smith we will call him. He made a provisional diagnosis of patients who were brought in at the lower office, then this patient was sent to the particular ward where this Doctor Smith thought he belonged. This young man I am speaking of had Ward A, where certain classes were received. On a card Doctor Smith would make out the name of the patient, if he had it, the age if he could get it. Then he would write down the disease that he thought the man had. But he always put it down in abbreviations—for instance, t. f. for typhoid fever, pn. for pneumonia, etc. Our young man in the upper ward did not want to show that he was ignorant in the slightest degree, so he tried to guess at all abbreviations. He did pretty well at it, too. One time one of the cards had g. o. k. on it as the disease of the patient. He looked through his books and his medical dictionaries, thoroughly examined the man, but could not find out what was the matter with him; he could not make out the letters g. o. k. At last, in humiliation, he went to the office below to see the expert diagnostitian. Doctor Smith said, “Why, don’t you know what that means, g. o. k.?” “No, I don’t know what it means at all. I must give it up, Doctor. I am humiliated, but I cannot work it out.” Doctor Smith says, “Oh, that is very simple. It means, ‘God only knows’.”

And how very frequently this happens. We must not even trust medicine. It is really a bad thing from certain points of view—and oh, how glorious and beneficent from other points of view! We must have medicine, but we should view it from different angles. I think the very best possible thing is to eradicate from man’s mind that he ever can experience perfect cure after disease or after injury to his body. That knowledge would work a great deal of good. I have handled medicines and I have given them for over thirty-five years and watched the processes, and I do believe that when we attempt to tell people these truths and facts,—that they must not get sick and that getting sick is weakness, it is not strength, that it is folly, it is not wisdom, they turn upon their heel and go to the next doctor that will give them medicine. Let us get away from that. I recently heard a very witty man, in a speech, tell of another man who hated him, “That man hates me with a curious tenderness.” I thought that perhaps in this matter of the high cost of living and clothes, we might hate the high cost of living possibly with a curious tenderness or, better yet, with a curious regret.

GOVERNMENT

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Fundamental to reforms of all sorts is the machinery to carry out the reform, and fundamental to the machinery are men. There is no possibility of making proper laws or enforcing proper laws unless we have men who are competent to make the proper laws and who are able to enforce these laws. The great characteristic of government in the United States is the absence of men who are competent to make proper laws and the absence of men who are fit to enforce these laws. The question of the proper organization of government, that is, the securing of the proper personnel to carry on the functions of government, to make and administer laws, is one of the pressing problems of the United States, and is fundamental to all other reforms, because no reforms are of any serious value in the long run unless they help the activity of all the people working through the proper machinery.

Wherever people have advanced in civilization, solving the various problems that have come into the world, especially as the results of inventions and developments, of wealth and knowledge of the last years—whenever people have solved these problems, it has been done by all the people working together by the proper machinery. I suppose there has never been a body of printed material so absurd and so far removed from actual facts and principles as the body of material which constitutes the various charters and constitutions under which cities and states and this nation are governed. I suppose that no body of material of such importance in recent times has been brought together other than by careful investigation, scientific observation and deduction. The one single important body of documents in the United States that is not the result of observing the laws of men, is the body of charters and constitutions under which we are governed.

Now, for about ten years, or perhaps longer, I have been studying simply how people work to get good government. I have made observations of it as a man might make observations in studying the laws of bees, bats, trees, flowers, and, in the remaining fifteen minutes, I am going to tell you exactly the result of my observations. It is this, in one sentence: When masses of individuals set out to cooperate together to produce some given result or to carry on some given enterprise, it has been found that there is only one successful method of organizing, and that method is by the election of what corresponds in all cases, without any exception, to what a board of directors is to a corporation. Now the plot of this form of

organization is this: That the people—whether members of a company, stockholders in a company, or members of a church, of a hospital, or citizens of a city—elect only one kind of official, namely, a director or a number of directors, and every official elected has the same status as every other official elected. This body of elected officials is not those who have the competence or the technical knowledge, skill or training to exercise the various functions of government, but who have the competence to select those who have the skill to exercise the various functions of government. The utmost electoral ability of the most highly civilized people today on the globe is reached by the election simply of a board of directors. And if this body of people endeavors to select experts, that is, to elect mayors or judges or presidents or governors or any other form of official, the government under that form of election fails. Now that is the universal law of all history, of all contemporary history, and there are no exceptions. You can see how it would work if the stockholders of a great railroad system set out to elect experts who should run that railroad ultimately, electing even train dispatchers, perhaps telegraph operators, making plans as to who should be appointed station masters, even working down to who would be the section bosses, electing a president, etc.—how that railroad would very soon become unreliable. The same is true exactly with our city governments, because they are unreliable from the standpoint of any proper test of efficiency.

Let me explain just how the proper form of government works. There is only one proper form of government. Among the people who govern themselves and get the things they want most absolutely are the inhabitants of German cities. I will describe one German city that I spent many weeks studying—the city of Frankfort, which is typical of Germany and of northern Europe. The people elect simply a board of directors and no other official of any kind. They elect by wards. They call these directors “councilmen.” The body is called a council. They are elected through wards, not on a ticket at large. A man goes to the polls in Frankfort without any primary nominations, no previous official work of any kind, and if he wishes to, he writes down the name of the man he wants for his councilor from that ward. Now he can take any man, not only in Frankfort, but within fifteen miles of that ward, to be his councilman from that ward. He demands the same knowledge and ability in picking out his councilman as you do in picking out your dentist, your lawyer, or your doctor. He wants the best man he can get within fifteen miles. Second, he demands that he himself shall have the right of primary nomination. No group of

men can come forward and print a sheet and say, "This is the official ballot." Those men demand the right to make their own nominations, and five hundred voters may nominate five hundred different individuals to be councilmen. That is the amount of freedom they demand to begin with. It sometimes happens that no one has the majority. Under those circumstances, and within eight days, they take the two highest names and vote between those two. That is all the election activity that occurs, in selecting their government in Frankfort. It is so simple that the people can get what they want. Now then, they elect these men for six years. You see the electoral activity of a properly governed people has about as much to do with the life of that people as the electoral life has to do with a well-managed club. It has almost nothing. These picked men find a body of men which they call the "magistrat of experts." One of them is mayor. This particular mayor is just at the end of his second twelve-year term. He came here twenty-four years ago as a very distinguished officer and mayor, because no German city ever experiments on its mayor. They begin with a man competent for the job, beginning in a small way and gradually getting on up. A man who becomes an engineer on the limited is always competent for his job from the time he becomes an engine-wiper in the round house. So these men are advanced according to their competence, but no German city ever employs an official of unknown quantity. So this man came here with this great record and became the mayor of Frankfort. With him are twelve experts. I will describe one of them:

Some years ago they wanted to sell out their street railway system and they wanted an engineer of extraordinary ability to be a member of the magistrat to govern Frankfort, and they found no one, even in Germany, they regarded as sufficiently competent to take over this job. They found a man in England who was fit for the job and they brought this man over and made him a member of the city government of Frankfort and he has remained there until now, and so they hired these twelve men who had a similar history to the mayor and to this young man. Then these men, as in all great concerns, organize down, each with his chief and sub-chief, and on through from the mayor to the street laborer. They are all organized efficiently and that is why Germany has gone ahead by years and years of other countries in the march of socializing the new forces and ideas that have come into civilization. There is a country not any bigger than California, with sixty-five million inhabitants, increasing a million a year. Less than 20,000 Germans leave Germany each year. Emigration has almost ceased.

Now, 168,000 Americans left America for Canada last year. The fact that even 20,000 leave is of no significance, but here is a country which is so well organized, that handles all these problems so well. Do they have hookworm? Yes. What do they do? Does Mr. Rockefeller go out and give a million dollars and everybody shouting and calling conventions, saying, "Here is hookworm killing the people." No; they have an organized government; they take up this hookworm question, they treat those people who have the hookworm and this thing is finished in three weeks. Do they have typhoid fever? Not much, but they have some. They remove it by getting clean water, insuring clean water. In a small country with two-thirds the population of the United States, not much bigger than California, which we should think ought to be full of typhoid fever, they have six cases to our forty-six. When I tell you a thing, it is absolutely the ultimate fact. I have the documents, a trunk full of them. So much for the efficiency of German government.

We govern by mayors, untrained people. We actually elect at large our mayors, and oftentimes only mayors for two or three or four years, then put in another, and a druggist, or a banker, or sometimes a brewer, or what not, and do this often; then another man. Government is the only business in this country that is run by men who are not trained for the job. You can see how it is possible for a people to get self-government, also expert service. The people who are elected, are elected for definite terms, and may retire. The people who are the experts, are employed for life, not necessarily in one city, but in the same work, in the same general occupation. For instance, a mayor might be a mayor in this town six years, then in another town six years, and so on, and so with all the other officials. So they combine, the elective system, getting people to carry out the wishes of the masses, who constitute the citizenship of a city, and also the expert people. Is that a mystery? That is exactly the way that all businesses all over the world are organized. That is exactly the way all successful governments all over the world are organized. Just imagine what our electoral system brings out in the way of long tickets. How impossible it is to know for whom you are voting. I remember one ticket in Chicago about a foot and a half wide and three feet long in solid type all the way down. One item was eighty-three judges. I have some friends who are lawyers. None of them knew any one of these nominees. Imagine how the common man does. There has never been an illustration of really successful administration of law through the courts where the judges are elected. There has never

been a successful administration of government where the executives are elected by the people. The people cannot rule through that machinery. It involves an almost unworkable electoral system, which itself becomes a business involving the passage of laws and then getting on before the courts to find out whether they are legal or not. I think when you bring in the universal method of organizing, how simple is the election system.

How does this system of government work? I will take just a few illustrations. We are, broadly speaking, behind most of the other civilized nations in the various socialized laws dealing, for example, with the compensation of workingmen, and so on, and in methods of ameliorating the conditions of the poor, and of the workers. We are, properly speaking, behind all other peoples, all other civilized nations, but we will take some definite things. When I was in Washington last year at the inauguration and saw those police deal with the women's parade, I saw a spectacle that could not be paralleled in the civilized world for inefficiency and incompetency, so I went down to the police station next day and asked for the annual report. They didn't like to give it to me when I told them my name, still I was entitled to it, and I got it.

I found, from their annual report, this one fact about Washington—there are a great many others, but this is significant—that Washington city, which is the same size as Toronto, had ten times the murders of Toronto; that Washington, D. C., had two-thirds the number of murders as in all Ireland, more than double the number of murders in all Canada. They blame it on the negroes. Just that day I received a report from Jamaica, where they have 800,000 negroes and an average of seven murders a year, nine times the number of negroes in Washington, D. C., and less than one-quarter the number of murders. Washington, D. C., is the most criminal capital city in the world today, and it is simply a typical American city. It has the average murder-rate of the United States. It is not a place of foreigners; it is a manufacturing city governed by the government of the United States very largely, and ought to be almost a model city, but it is an average American city. It has ten times the amount of murders found in the civilized countries of northern Europe, and it is an average American city. Washington is governed by a national board of aldermen appointed by Congress. Congress appoints commissioners to govern the districts of Columbia, but that does not mean that Washington has the commission form of government. That word, anyhow, is a silly phrase. What we call the commission form of government, that is, the pure form of government, is the universal form of government that I

have been describing. It is not exactly pure, because we are such fools that we take it and exchange it. They have not had the commission form of government in Washington. It is really a board of aldermen appointed by Congress, a large and powerful board.

All the papers are discussing Dayton's wonderful experiment, the working commission and a city manager. That is the universal form of city government in other countries, only they call it there the mayor. In Frankfort he would be there perhaps for life.

Take the matter of fires. We have men who are incompetent to make proper laws dealing with fires because the laws of combustion are the laws of nature and are universally and inevitable, and if men are too ignorant to understand these laws and to make proper laws for buildings, those buildings get burned. Yes, we have men who are incompetent in enforcing these fire laws. Do you realize that you could not burn down a European city? They never had a conflagration in a European city. It is impossible. When they are built, they are built to make a general conflagration impossible. Nature has certain laws, and they recognize her laws. For that reason I took twenty-one American cities and twenty-one European cities, about the same size and status, and found seven times the fire loss they had in the European cities—both of the same material, during the same time, and under the same general economic condition, because they had competent men who made efficient laws and competent men to enforce the laws. The same is true of accidents, of all the operations of our civilization. Under this system of government, the loss of life is from four to ten times as much from various forms of violence as in northern European countries. Take New York City alone. I have the coroner's report for the last three years, and the official report of the Boer War in South Africa. The loss of life by violence in New York City for the past three years is equal to the loss of life for the three years of the British armies in the Boer War. That is, in the one Borough of Manhattan, the loss of life by violence from day to day, from year to year, equals the loss of life there of the British armies during the South African War on the battlefields of South Africa. That is one of those astounding statistics. Always when I lecture on a subject, I have my documents with me, because you cannot believe it. Any test you will apply shows that we have just the result you would imagine from the inefficient government and from our absurd method of organizing government, because the inefficient form of our government involves a perfectly unworkable electoral system whereby the people cannot get their will. Who gets his wishes in the election of all these long tickets, tip-topped by men who have their own

ends to serve? We endeavor to correct this by going a step worse. We think we can correct these things by the initiative, the referendum and the recall. They must have direct participation of the people in the elections, etc. People have never been successful other than by a purely representative form of government, the board of directors.

We think the recall is another thing and everybody gets it into their charters if they can. We think a new way and a cumbersome way of discharging dishonest or incompetent officials is going to help towards bringing about efficiency. Ask a business manager if a new way of discharging an employee is going to help build up an efficient organization. How can people determine laws of initiative and referendum?

When I was in San Francisco, the women were very active and very nice indeed, too. They had forty-five amendments to the charter, including pensions for mothers, etc. They said, "Mr. McClure, will you give us an address and give us your advice?" And I said, "This particular minute, if I had one or two of my best men to spend several months in making an investigation in several countries, then I would be willing to furnish my opinion in *McClure's Magazine*." They were willing to put their opinions into the law of the land, or forty-five of them, without any investigation.

Suppose that the stockholders of the Pennsylvania Railroad had to decide whether or not this great river should be bridged by this sort of bridge or that sort of bridge. How could they determine that question? They could not. They must have a method whereby they can secure competent and skilled advice to determine those questions, and the reason that Germany does all these things so well is not because the people at large can vote on this or that question, because they are incompetent to do so, but because they have a system of government whereby they can get efficiency, skill, training, and scholarship for the work. Now all we have to do is to throw away this bizarre stuff and adopt the only universal method whereby men can organize efficient government. Then your prohibition laws will amount to something, because you have men competent to enforce them, but they will not under the present conditions, which involve inefficiency.

In *McClure's Magazine* I have spent years, vast sums of money, and able men, making an inquiry, and have shown the most strong alliance between keepers of houses of prostitution and the saloon-keepers or men who actually govern the city. I will give you one story. This was a man whose name is known over the United States, a town of 600,000 inhabitants. A young girl had been se-

duced by a man who was a brother of a member of the city legislature of that city, and he had taken her around and used her as a white slave in different cities, in Seattle, and so on. This girl finally appealed to a man of wealth in that city, and this man, having a heart, set out to rescue her. The case was brought up before the magistrate, and this man went to the magistrate and said, "Now here comes up this case, and we want a verdict according to the fact;" and the magistrate said, "I don't know as I can do anything in this. You better see the mayor." And this man and another man went to the mayor with the story, and the best the mayor would do would be to agree not to thwart justice on account of the pressure these men brought to bear upon him, but he would not prevent the magistrate from rendering a decision in accordance with the fact. When this girl was giving the testimony, she sometimes went beyond the question asked, when the judge said to her, "Kindly answer the questions. Don't go beyond the questions." And this girl got justice only on account of these men going to the officials. That is one of the simpler illustrations of inefficiency in the form of organizing government. The resulting, unworkable, electoral system of continual change of officials, with lack of any motive for any man going into this as a life work, has brought about, not only inefficiency and the immense increase of crime that everybody deplores, but has brought about a thing that never before happened to my knowledge in human history—a union of the lowest, meanest, worst elements of a community with the machine that actually governs the city. When I was younger and more forceful and less rational and more worked up, I said we could have an article in *McClure's Magazine* based upon data that could be entitled, "From the Whore House to the White House," because you could see how they used all these places to get votes to enable you to carry the precinct and the city, and you could see it very easily; the organization with a criminal element, those engaged in the most degrading occupations, with men who were engaged in robbing the cities by various forms of franchising, constituting the political machine. It is the same formula in San Francisco, New York, Pittsburg, Chicago, St. Louis—everywhere the same formula in this country, not because we are the most criminal people in the world, not because we are the least competent for self-government, although at the present time we are one of the least competent for self-government, but because we have an unworkable system of government that was devised, invented, adapted for certain theories evolved by the French Revolution. But that is another lecture.

*Discussion.***The Government of a German City**

PROFESSOR RICHARD T. ELY, University of Wisconsin, Madison, Wisconsin.

A great many people expressed interest in the remarks of Mr. McClure, but I think he did not make it clear how a German city is governed. Perhaps I can make a contribution of a practical nature just at that point.

A German city is governed just as the University of Michigan is governed. The people elect the regents; the regents elect experts who carry out the directions and the policy of the regents. The citizens of a German city elect the council. The council corresponds to the regents. When the people elect the council, they have done their part. When the people elect the regents of the University of Michigan, or when the governor appoints a regent of the University of Michigan, then their part is done. Then the regents do the rest. It is for the people to determine policies. They determine policies in Michigan when they elect the regents. They elect regents to carry out certain desired policies, then the regents select experts. That is just the way the German city is governed, almost precisely in that way.

*Discussion.***High Cost of Living**

BYRON W. HOLT, New York, N. Y.

I desire in no way to mar the harmony of this great discussion of race betterment. I would not chill the ardor of anyone here. Good cannot but result from the many able addresses that have been made on subjects vital to health and morality; for the two are really but one.

After listening to most of the speakers, I have, however, to conclude that they have, in the main, discussed secondary, or still more remote, causes of disease and race deterioration and have largely considered remedies rather than preventions. Apparently they were not searching for the ounce of prevention that would make unnecessary the pound of cure. As modern scientists, we should try to find first causes. When these are found, we should endeavor to remove them.

It will hardly be denied that the two most important and fundamental causes of preventable disease, as well as of crime and race deterioration, are (1) ignorance and (2) poverty. As to which of these causes is the more important, it is difficult to say. While they usually overlap and run into each other, yet we frequently find

just as dense ignorance of, and indifference to, the first principles of health and hygiene on the part of the rich or well-to-do as on the part of the poor. It is also just as true that the poor are, because of their poverty, unable to obtain proper and sufficient food, clothing, and habitations to carry out their ideas of right living. It is perhaps true that the majority of the people of this relatively prosperous country are unable to live properly, even if they knew how to do so.

The fact that the cost of living has, during the last fifteen or twenty years, risen faster than have wages, salaries, and incomes, has lessened the proportion of those who *can* have proper food and clothing and live in sanitary homes. That the most of our people could, if they knew how to do so, greatly improve their present ways of living is indisputable. It is, therefore, well that we should do all that we can to banish ignorance. We should not, however, overlook the fact that we cannot make great progress in race betterment until we remove the most fundamental, if not the greatest, cause of race deterioration—poverty.

The Pittsburg Morals Efficiency Commission took a strong position in favor of eugenic marriage legislation. It also reached the conclusion that (as the New York *Evening Post* states it) “the one most potent weapon in the reduction of vice the Commission believes to be early marriages, to encourage which it emphasizes good housing, cheaper living, and even vocational education, as permitting the easy conversion of youth into self-responsible, wage-earning manhood.”

But how, under present economic conditions, can we have early marriages, healthy parents and well-nurtured and happy children. Only a small proportion of our young men of twenty-one are financially competent to purchase and support a proper home. Our young women are even worse conditioned. With most of them, it is less a question of eugenic marriage than of marriage at all. Practically, they must take the man offered when he offers himself. These conditions will undoubtedly persist, in more or less modified form, until our present economic system is changed radically—assuming that a much more equitable system of distribution of product is possible.

Living conditions, among the great majority of workers in our homes, in our factories and shops and on our farms and transportation lines, are not conducive to eugenic marriages, sound parents and healthy offspring. Infant mortality must necessarily be large when the parents work long hours at hard labor, have inferior food and live in close quarters and in poorly ventilated rooms with un-

sanitary surroundings. Parents of low vitality cannot possibly rear strong and healthy children. Disease, vice, and crime flourish in the tenements in our great cities.

I wish only to suggest to this Conference that poverty is one of the greatest causes of race deterioration and that, while great good may result from increased knowledge of the evils of improper living, yet our fondest hopes for race betterment cannot be realized until the economic base of our society is changed and the products of labor are apportioned according to merit—as is certainly not the case today.

I may say that, personally, I not only believe that a just economic system of distribution is easily attainable, but that civilization cannot progress much further without it. Our present unjust system is breaking down. The evils of industrial slavery—disease, vice, insanity, and crime—are greater today than were those of chattel slavery fifty years ago.

SEGREGATION

HASTINGS H. HART, LL.D., Director Department of Child-Helping, Russell Sage Foundation, New York City.

I wish to say a preliminary word which I feel is essential in any discussion of social work, and that is, that we must never lose sight of the fact that social work is a spiritual work, and the worker should have the same definite consecration which we expect of people who engage in religious or missionary work. The corollary of that is that in any line of social work you absolutely fail unless you produce a spiritual result. Of what good is it to feed a hungry man unless you inspire in him the purpose to feed himself tomorrow? What advantage is it to get a drunken man sober, to shut him up for ten days and turn him out with a thirst, unless you have inspired in that man's heart a purpose, a desire, to resist temptation and to stand? What good is it to undertake to put a man in prison or on parole or probation and to watch over him and to guide him for a limited time unless you are going to produce in that man the purpose and the courage which will enable him to go through the hardness he must endure if he is to be redeemed? I want to have what I say this morning divested of what will seem perhaps to be rather a hard and mechanical study. I am to speak this morning on the subject of "Segregation."

What do we mean by segregation? We mean the separation of a group of people in a community from the rest of the community

that they may go apart and live by themselves for a longer or shorter time in order to produce some result in a social way: Now what are the purposes of segregation? You may segregate people in order to make a diagnosis, that you may discover what needs to be done for them, or simply for temporary care until you can determine what shall be the next step. You may segregate people for the purpose of treatment and cure. Here are eighteen hundred people segregated in this institution [Battle Creek Sanitarium] for the purpose of recovering their health. You may segregate people in order that you may give them the treatment which we accord a criminal. Now what is that? We segregate people for purposes of punishment, and we segregate people for purposes of revenge. You will find that idea running through the legislation of the states of the United States to this day. Thank God we are learning that is not the best way. You may segregate people for various purposes. You may set apart a portion of your town where shall congregate the vicious elements, the gamblers and the saloon-keepers and the prostitutes, set off in a corner by themselves in order to make a public institution of those departments and put them under the care and supervision of the police. You may segregate people in order that you may simply care for them as an asylum, as provision to care for those who are helpless, incurable, neglected. Thus we have homes, houses, and asylums for certain classes of the insane. You may segregate people for protection; you may segregate people to protect themselves; you may segregate people to protect their family, or you may segregate people to protect the community.

I want to speak a few minutes about these different forms of segregation. The first form of segregation of which I spoke is segregation for diagnosis and temporary care. Now under this comes the jail; under this comes what we call the detention home for delinquent children; under this comes the detention hospital for the observation of persons who it is thought may be on the verge of becoming insane or whose sanity or insanity we desire to ascertain. Now the jail has served all three of these purposes. The most inconsistent institution in the world is the jail, which is designed to be used on the one hand for the humane and comfortable detention of insane persons, until recently for children brought together in the jail for temporary care, and also to confine accused persons. The Constitution says, "Every man shall be deemed innocent until he is proved to be guilty." Now we use the same jail, the same rooms, the same cells, and the same jailers, the same horrible conditions in every respect, for another purpose, and that is

for the punishment or the reformation of certain offenders under sentence. What we call petty thieves or drunken persons or disorderly persons are sent to jail to be reformed, and are given the same identical room, the same identical food, the same identical treatment in every respect, with the purpose of making it to the one man a humane and an easy detention, as comfortable as possible, and of making it to the other a bitter and deterrent punishment. You say it is perfectly impossible—it cannot be done. It *is* done all the time. There is one trouble about it: we give the humane and comfortable detention to the wrong man, we give the bitter punishment to the wrong man. That is where it is unfortunate, but it is an absolute fact. We are doing it in every jail almost in the United States. In the state of Michigan some years ago, two men were traveling with a team of horses. It happened that those horses answered the description of some horses that had been stolen, so the men were arrested, tried, charged with horse stealing, and had to stay in jail ten days before they could prove their identity.

There are thousands and thousands of insane people, sick people, and they are put into jail. They are submitted to ignominy and suffering and the rigors of the jail—in the name of what? Oh! to protect the community from danger. Not one in ten is dangerous, but they are subjected to treatment that is perfectly horrible. I have seen men shut up for months in a jail with absolutely no other care than they could receive from fellow-prisoners in the jail. Take a man accused of crime. More than half of all the people who are accused of crime, are never convicted, whether guilty or not. I am speaking literally; I am not exaggerating. Put a decent man into a steel cage and exhibit him like a wild beast in a menagerie at twenty-five cents per head. Put a man where he cannot keep free from vermin, and where he has no opportunity to take a bath. He is forced into association day and night with the vilest people. Can you think of a worse condition for a decent man this side of perdition? On the other hand, you take the bum, the tramp, the man who is degraded to the last degree and who has no self-respect—what does he want? Why, we take a man like that and give him a warm fire, plenty of good food, the society of others like himself, a pack of greasy cards and he is perfectly happy. He lacks nothing. He has a pipe of tobacco. They will always give him that. He may lack beer or whiskey, but in many jails he can get that if he has a little money, through the jailer. That is the man who on a day like this will go down town and steal something to get back again. That kind of segregation is utterly illogical. It is never humane. Isn't it amazing that we perpetuate it year after year and generation after generation?

I read a day or two ago the official report of the examiner of the state of Illinois on the jails of that state. This was an official report just as straight as could be. He said that during the past year the number of jails in this state which have kangaroo courts have increased from twenty-six to twenty-nine. A kangaroo court is an organization within the jail by permission of the sheriff whereby the prisoners administer a rough discipline of their own. It came out in that official report that the prisoners in the jail are accustomed to assign to a prisoner the work he has to do in the jail. In some they are given a dark cell or dungeon in which they punish persons who disobey the regulations of the court, and the prisoners, if they have money, are required to make contributions for the benefit of their fellow-prisoners. If the prisoner has anything sent to him by his friends, he must divide or he will be dealt with. The inspector said he didn't think there was force employed, but if a man refused to make these contributions, it would be made very uncomfortable for him.

It was literally true in the state of Illinois that the prisoners of the jail were allowed to take incoming prisoners and rob them and abuse them physically without rebuke.

I saw in the city of St. Cloud, Minn., a boy of sixteen who was held as a witness against a man for a crime against nature, and they didn't dare let the boy go because they thought somebody would give him a few dollars and he would not be found. So they put him in jail as witness and he was in the same apartment with that man against whom he was to appear as a witness—and the same thing was going on. I am speaking literally and of things that are not done here and there, in a corner, but in many counties in the United States. That kind of segregation is wrong.

I say segregation may be for treatment and care. You have in this institution an example. These people are sent here for treatment and care. Institutions of the class I speak of are the reformatories of the United States, the juvenile reformatories, schools for boys, like the one you have at Lansing of this state, schools for girls like the one at Adrian, then reformatories for young men and women, such as are now growing up in all parts of the country.

All of these institutions ought to be hospitals in principle—not only hospitals in principle, but they ought to be literally hospitals, because more than half the people that come into these institutions of the state are in need of medical or surgical treatment. It is only very lately that people have waked up to the condition of the people who are in these institutions. It is less than six years ago that Miss Mary Dusen and Mrs. Glendower Evans, in Massa-

chusetts, thought that they would undertake an examination. They had been impressed by the number of girls brought into the Lancaster school who seemed to be deficient. They made a rough investigation and they came to a conclusion that was perfectly astonishing at that time, that probably twenty-eight per cent of all the girls in that institution were subnormal. That led to an examination in the reformatories, the prison for women at Bedford, N. Y., in the Elmira reformatory for young men and the New Jersey reformatory for young men, and in other institutions, until now it is generally accepted that in our prisons and reformatories at least twenty-five per cent of the inmates are defective, or in our juvenile reformatories from twenty-five to fifty per cent. In one institution where I employed a psychologist to go in and examine the girls, we found that sixty-five per cent of the girls were feeble-minded.

But the reformatory is the wrong institution for these children, because the girls who are sent into that juvenile reformatory do not need reformatory treatment. The girls are sent there by the courts as delinquent. They are put into that institution and people try to reform them. They proceed to educate them, and to instruct them, and to control them, and to punish them, and to pray over them, and to exhort them, but that is not what these girls need. They need to be out in the open; they need to have fresh air; they need to have natural recreation; they need a good time. There is absolutely nothing delinquent in the purpose of these children. But what is the result? The result is that all of our institutions for delinquent girls in the United States are now so clogged up with feeble-minded girls it is impossible to do the legitimate work of the institution for those who are not feeble-minded, and these feeble-minded girls and boys in these juvenile institutions are being cared for today in those institutions at almost double the cost that would be necessary if we had proper institutions built for them so that they could be transferred to institutions intended for their care. We have a very expensive treatment that is not intended for them and not adapted to them. In the same way we have many of the feeble-minded in our hospitals for the insane. And we are spending at least fifty per cent more for the care of these feeble-minded in the hospitals for the insane than we ought to expend for them.

Now let there be adopted in each of our states a state program for dealing with these subjects, such a plan as was adopted in the state of Ohio, and let the people of the state begin to balance these things up and see what is being done for preventive work for feeble-minded epileptics, cripples, for dependent children, for

delinquent children and let these things be ordered in some systematic way. At the present time, this whole thing goes haphazard, especially with reference to children. It is often simply a matter of impulse, of some man who is making a will. He makes a will, leaving a sum of money for the creation of an institution for children, but never stops to consult anybody as to whether it is needed.

I was consulted some time ago down in the state of Virginia. A rich man there who had built an institution for girls sent for an expert whose advice he did not follow. What he did do was to adopt a charter whereby the institution should receive girls who were entire orphans, who had lost both parents, native-born Virginians of good character, between the ages of four and twelve years. Absolutely there was no class in the state of Virginia that so needed such provision, because an orphan girl who is a whole orphan of good character can find a home any day of the week.

We may segregate for education and training. We send our children to boarding school. We establish schools for the deaf and the blind. We used to use asylums for the deaf and the blind, and orphan asylums. We do not build those asylums any more, thank God! We build schools for the deaf and the blind, and we lead them to realize that they are going out in the community to care for themselves, and to become self-supporting and honorable citizens. In 1876 the state of Michigan established a new school under the name of the "State Public School" at Coldwater. What is that? That is only a part of the name. It has confused people a great deal. It is the State Public School for Dependent Children. All of the children in the state of Michigan that used to be sent to the almshouse are now gathered up and sent to the State Public School to be kept until they can receive such treatment as they need in a medical way or in the correction of bad habits or in the direction of teaching them the ordinary decencies of life. Then they are distributed out into family homes throughout the state of Michigan. It has been one of the most beneficent things that ever was started in the United States.

I can never understand why but three states have followed this state in that respect—the state of Minnesota, the state of Wisconsin, and the state of Colorado.

We may have segregation for punishment and revenge. Isn't it a horrible thing at this day that we should be establishing institutions with the declared purpose to get even with a man, to give him what is coming to him. A man is brought before the court, the judge sits on the bench, listens to the testimony which may last an hour or two hours, possibly two or three days if the man has

money enough to employ lawyers to defend him, and when that is through, the judge measures up the deserts of that man, two years, five years, ten years, fifteen years, of life. Why, friends, what does the judge on the bench or you and I know about the deserts of a human soul? Who can measure evil? Why, it is only the Almighty who sees the springs of human action, who knows the history of that individual from the beginning of his life and clear back to his grandfather and great-grandfather, who knows all of the influences of environment and all of the temptations to which he has been subjected and the injustice he has suffered. Only the Almighty can measure human guilt, and yet up to this day we are attempting to give men what is coming to them. That idea is exploded. We got rid of it with children many years ago and began to send children to the juvenile reformatories for care and training. Then we got rid of it with young men, and began to send young men to the state reformatories, and gave them what we call an *indefinite* sentence. In other words, to be taught, trained, and cured, is the basic idea of it. Now just as soon as there is reason to believe that a man, if dismissed from state's prison, will lead an honorable, upright life, out he goes.

We are also learning that there is a better thing to do with men or women, boys or girls, than to send them to prison; so there has come about the probation system, where if there is a person who is not in any way confirmed in crime, and has given pretty good evidence of reform, he is turned over to the watchful care of a person who will care for him and guide him.

The most imperative duty of a community at the present time is the custodial care of the feeble-minded girl. The work for the feeble-minded began at the wrong end sixty years ago in this country with the young child. We let the older girl run loose, and she is perpetuating and multiplying her kind. We have just discovered that the feeble-minded woman is twice as prolific as the normal woman. This is a scientific fact. If a feeble-minded woman consorts with a feeble-minded man, the offspring is sure to be feeble-minded. If she consorts with a normal man, the chances are more than half that the offspring will be in some way defective. Yet we are going on with that thing, gathering up these little children, putting them into schools and training them and letting the girls run loose. The thing to be done is to stop the admission of children under twelve years old until we have gotten all the others taken care of. We are taking care of the insane women, but not the feeble-minded women. The feeble-minded woman is twice as dangerous to the community as the insane woman. Why? It was said

here yesterday that insanity is a disease of old age, and feeble-mindedness is a disease of youth. Young women become mothers and it is the highest economic duty to protect them. I do not know anybody who is more deserving of fostering care than these girls of fifteen, sixteen, and seventeen who have the mind of a child of seven or eight and the body of a woman. They ought to have the same protection we give to a little girl, but instead they are pursued, hunted down, and destroyed like rabbits.

THE NEGRO RACE

BOOKER T. WASHINGTON, LL.D., Principal The Tuskegee Normal and Industrial Institute, Tuskegee, Alabama.

I am very glad that those in charge of this Conference have seen fit to consider the race to which I belong, in connection with the subject under discussion. Before I begin what I have to say, I wish to express my personal obligation to Doctor Kellogg and to the teaching for which he stands, because of the benefit which I have received as an individual.

Some three years ago I found myself almost out of commission physically. Without any knowledge or consent, my wife in some way got hold of a colored man trained here under Doctor Kellogg, by the name of Mr. Crayton. He came to Tuskegee, he was installed in my home by my wife and for six months he had charge of me. At the end of that six months, I was a new man, and not only a new man, but I knew more about living and enjoying life than I had ever known before. And so I want to express to you, Doctor Kellogg, my deep personal gratitude.

Some years ago I was traveling through a certain section of the South with a friend. We chanced to stop over night in one of the cabins which is common to that section of the country. The next morning, when we went to the breakfast table, the good hostess asked us whether we wanted long or short sweetening in our coffee. (I am aware that I am getting on tender ground when I attempt to discuss the question of food here and especially coffee.) But this good lady asked whether we wanted long or short sweetening in our coffee. Neither of us had ever heard the question put in that form before and each was puzzled. She looked at one and then at the other for an answer. I punched my friend rather gently and slyly in the side and suggested that he answer first. With a good deal of courage he finally said he would take long sweetening. With that the good woman put one of her fingers into a cup of

molasses—that is allowable—and then she put that same finger into his coffee. Now that was one sweetening. Then she turned to me and asked what I wanted, long or short. I said I would take short! Then she put her hand into another cup, took out something that resembled a lump of maple sugar, put it between her teeth, bit it into two parts, put one part into her coffee and the other part into my coffee. That was short sweetening. Now Mr. Chairman, I do not know what you want or expect of me in the way of an address, but I wish to assure you in the beginning that both my long and short addresses are rather disagreeable. Under the circumstances I shall have to choose short sweetening, if any at all.

Few races in history have been subjected to so many sudden, violent, and trying changes as is true of the African Negro within a short period of years. First there was a tremendous transition from Africa to America, from free life to slave life, then from slave life into free life, and then there has been a change which a large proportion of my race has experienced of moving from the South into the North. But in spite of all of these changes, the negro has lived and is living and intends to live, in my opinion. Now I know sometimes people get a little impatient with us because we do change so suddenly and frequently. I remember that some years ago I was in Jacksonville, Fla., visiting a friend of mine who had become a prosperous lawyer. He had recently built a new house and he took me into his rooms and showed me over the fine mansion, which it really was—into his bedrooms, bathrooms, kitchen, and dining room. When we went into the beautiful dining room, there was a bell under the table (one of his truss bells), and he put his foot on it and pressed it and a servant appeared at the door. He pressed it again and the servant appeared the second time. Then a third and a fourth time he pressed on the bell and the servant appeared. And I said to him, “My friend, why in the world are you calling that servant through the medium of that bell so often when you do not seem to have any need for the servant?” “Why,” he said, “Mr. Washington, the fact is only a few years ago I used to be bell man to Colonel Porter myself and I always came when the bell rang and I am trying to readjust myself to the changed conditions in life.”

So you have to be a little patient with a negro while he is trying to readjust himself, through all these changed conditions—changed conditions physically, industrially, socially, morally, from almost every point of view.

We have in this country about ten million members of my race. The number, in spite of predictions to the contrary, is not decreas-

ing. We are growing at a reasonably healthy rate, not only from within, but from without. Some years ago the United States began to manifest an interest in the people of Cuba, Porto Rico, Hawaii, and the Philippine Islands, and those people began coming over here in pretty good numbers. I noticed that when they landed, either on the Atlantic or Pacific coast, the White Man looked at them very closely, critically: he examined their skin through a microscope, felt of their hair, looked at their noses. He did not know exactly how to classify those people, and he finally said, "We better be on the safe side and give them to the negro." Now we are getting most all of them, so that we are increasing at a reasonably rapid rate. Nine millions of the families of black people reside in our Southern states, one million reside in the Northern and Western states. Eighty-five per cent of those residing in the Southern states are at present to be found either in small towns or rural districts of the South.

Now, in my opinion, these people are worth saving, are worth making a strong, helpful part of the American body politic. They have already indicated, within their fifty years of freedom, some signs of being worth saving. In the first place, from a physical point of view they have lived; that is, they have survived. That is not an easy thing for any dark-skinned race to do when it is near you. Now, my friends, study history and you will discover that the American negro is practically the only race with a dark skin that has ever undergone the test of living by the side of the Anglo-Saxon, looking him in the face and really surviving. All others that have tried that experiment have departed or they are departing. Now we have lived. Not only that, but we have supported ourselves from a physical point of view. When Mr. Lincoln said fifty years ago, or a little more, that he was going to free us, some people said, "Don't free those negroes. They will prove a perpetual burden upon the pocketbook of the nation." Somebody said that from a physical and economic point of view they would not support themselves, they would not clothe themselves, they would not shift for themselves, they would not feed themselves. If you will study the records of the American Indians—and I have nothing but the highest respect and love for the American Indian—you will find that Congress is called on to appropriate every year between ten and twelve millions of dollars to be used in providing food, clothing, and shelter for about three hundred thousand American Indians. My own race in this country has been free fifty years, and never, since the days of reconstruction, has the

American negro asked Congress to appropriate a single dollar to be used in providing food and clothing for his people.

Absolutely, from a physical point of view, we have cared for ourselves—and once in a while we have had a little something to do in caring for somebody else. Some time ago in Dallas County, near where I live, the white people were having a convention. There was an old colored man who was janitor of the convention who usually managed to find out what was the object of every meeting the white people held in that court house. But this was a new kind of convention and the old colored man could not seem to analyze it. After it was over, he found the president of the convention, Colonel Jones (who used to own him), and he said, "Colonel Jones, you white people is up to something. You is having a meetin' in this court house, and I can't understand what you drivin' at. What is the object of this here meetin', Colonel Jones?" He replied, "Uncle Jim, it is simply an immigration convention. We are trying to devise ways and means by which we can induce more white people from Europe and the West and North to come here and settle in Dallas County." The old colored man scratched his head and said, "Oh de Lord, Brother Jones; we niggers in Dallas County have got just as many white people in Dallas County now as we can support." We have had to support ourselves and we have had a little to do once and again in supporting somebody else, and while we have not paid a great deal of taxes directly to the support of Government, we have made it mighty convenient for somebody else to pay the taxes through our labor.

If you will study the economic life of the South, you will find that a very large part of the expense of Government in the South, as I said—and I say it, my friends, with regret—a very large part of the expense of carrying on the Government comes from the labor of convicts, a very large proportion of whom are black people. That is, they have not yet gotten out from the condition where we yield to the temptation of using the convicts for profit. Of course, the more convicts, the more profit. That is something that the civilization of the South is working away from gradually, but in my opinion, slowly.

Some years ago we discovered that the people of Great Britain were spending annually not far from fifty millions of dollars in an attempt to rescue the drunkard, the gambler, the loafer and the misfits of life; in a word, they were spending not far from fifty millions of dollars in an attempt to get people up out of the ditch. Now, my friends, with all our weaknesses and shortcomings—and I fully recognize what these weaknesses and shortcomings are sur-

rounding my race—we are not yet in the ditch. How much wiser is it, how much more economical is it, how much more interesting is it, for us not to wait till these millions of black people get into the ditch and then have to spend millions in getting them out, but to spend millions, if necessary, in saving them before they get into the ditch. That, in a word, is a problem that is before the people of this country.

Then, in a word, I represent a kind of new race. You know some races are so old. They have been where they are going. They have their history behind them. Mine is before it. Some time ago, I met an old colored woman on the public road at Tuskegee one Sunday morning, and I turned to her and said, "Aunt Caroline, where are you going this morning?" Quick as a flash she turned and said, "Why, Mr. Washington, I's done been where I's goin'." These black people in the South are tremendously interesting from this point of view, in that they have not been where they are going. They are just on the way, and if we deal with them wisely, intelligently, frankly, sympathetically, I repeat that we will make them a strong, helpful part of our citizenship.

Now how? In the first place, we should use our influence, if we would better the condition of my race, to keep the masses of our people in the country districts and out of contact with the large, complex problems of city life, either North or South. The negro, as I have observed and studied him, is best off near the soil, near Nature, in the rural districts—as a rule. He is worse off in contact with large, complex city life. And I go further. The negro on the whole (I know there are many fine exceptions) is better off in our Southern states than he is anywhere else in this country. He finds opportunities in the South for progress that he does not find in like degree outside of the South.

Those of you who would keep the body of my race strong, vigorous, and useful, should use your influence to keep whiskey away from the negro race. I am no professional advocate of temperance, but I have observed the effects of the use of liquor on my people in the South and I have no hesitation in saying that in the counties and in the states where we have no open bar-rooms, the black man—from every point of view—is fifty per cent better off than he is in the counties and states where they have the open bar-rooms. I know it is often said that shutting up the bar-room does no good, because people get whiskey by other means. I am speaking of conditions in the South where I know them. The difficulty in judging correctly grows out of the fact that you hear of a man who gets whiskey in a closed bar-room, but you do not hear of the ten men or

nine men who fail to get whiskey in these prohibition counties. In my own county in Alabama—and it is typical of a large section of the South—we have had no open bar-rooms for twenty years. A bar-room in our county would be a curiosity to a large proportion of children, white and black. That means that the people have become weaned away from the love of whiskey, even from the taste of whiskey. And so if you would help my race better itself physically, use your influence everywhere to keep the bar-room closed, to keep whiskey away from them.

And then, with equal emphasis, I want to ask you to use your influence to keep the patent medicines away from my race. Now I suspect I am getting a little personal here in the North, because most of these things are manufactured up here and the South seems to be a kind of dumping-ground for them. When a patent medicine is so vile that you cannot find a market for it in the North, it is dumped down in the South on my race. Now keep the whiskey and patent medicines from my race and you will help make them a strong and better race of people.

Now, I have said, in connection with that, keep them in the country districts, but, my friends, the negro has a great deal of human nature, and he wants education for his children and he is not going to stay in the country districts unless he finds as good school opportunities, as good church facilities, as he finds in the smaller towns and larger cities of his country.

Again, from an industrial point of view—and this applies to all sections of the country, North and South—those who would better my race I hope will learn to reward the race more as individuals and not so much as a race. There are certain opportunities in industrial directions that are closed against the negro simply because he belongs to a certain race. You know what I mean. Now that is unfair, my friends; that discourages and holds back some of the strongest and best men of my race.

Now, my friends, more and more the American white man should come to the point where he deals with my race as individuals, and not so much with the race as a whole. That is the way other races are dealt with. You will find that in proportion as my race is studied and helped and encouraged, it will add to the strength of the economic life of this country.

In that section of our country where the negro is dependent upon others largely for work (I do not mean the discussion of the theory of work or these economic theories, but actual work—I do not mean the discussion of home economics and domestic art and domestic science, but I mean only one thing), the negro woman is de-

pended upon for cooking. You know sometimes you get cooking mixed up with domestic art and domestic science and have a lot of trouble. Now down there where the negro woman is depended upon for cooking, where the black man is depended upon for work in the field and in the shop, there is a tremendous waste of economic life to the white man because of the weak and sickly bodies of thousands of my race. I speak with care when I say that at the present time there are—at least in the Southern states—two hundred thousand black people who are sick, who ought to be well. And somebody is paying the cost of that sickness. There are two hundred thousand colored people in the South today who are sick from preventable causes, and your duty as American citizens will not be accomplished until you reach this class of our people.

You cannot help the negro very much and you do not help the white man very much by yielding to the temptation of trying to shut the race off in certain segregated parts of American cities. The negro race is just as proud of associating with his race as the white man is of associating with his race. I would not change races or colors with the whitest man in America. No man can be more proud of his race than I am of mine. No man can be better satisfied in association with his race than I am when associating with members of my race. But, my friends, according to our complex form of Republican Government, when you shut the negro off in any certain section of a city or community, the negro objects, because he knows that he is going to receive an unfair deal. Where? How? In the first place, he knows that when you shut him off from the rest of the population, he is not going to have a fair chance from the health point of view, from a moral point of view, from a physical point of view. He knows that the lights in that section of the community are not going to be so good as they are in the other section. He knows that the streets are not going to be so well kept up as is true in other sections of the community. He knows, above all things, that the sewerage is going to be neglected in his portion of the city. He knows that he is not going to receive the same police protection that other people receive in the same city. He knows that he is going to be kept out of churches, of the influences of the Y. M. C. A., of the library, of the hospital. And he knows, further, that he is going to be compelled to pay a tax that is equivalent to the tax paid by the rest of the community who receive the benefit of all the conveniences and comforts of civilization.

Now, my friends, our two races are going to remain in this country together. We are going to touch each other at some points. You cannot shut the negro away from the white man. If you would

build a wall around the negro, he would get over that wall and then you would have to build five walls around the negro to keep the white man away from the negro. We are going to live here in this country together. In fact, we are more like you than any other race, aside from the color of our skin, that comes into America. We speak the same language that you do, we eat the same food that you do, we profess the same religion that you profess, we have all the ambitions and aspirations that you have, we understand the genesis of your local institutions, we have the same local and national pride that you have, we love the same American flag with just as great fervor as you do. We are American citizens and we are going to stay here with you. That means we are going to help you, or we are going to hurt you, and we want you to help us to get to the point where we can help you. We want to help you and we want to help ourselves.

I am interested in the negro race; I am equally interested in the white race in this country. I used to be a hater of the white race, but I soon learned that hating the white man did not do him any harm and it certainly was narrowing up my soul and making me a little bit of a human being, and so I said, "I will quit hating the white man." I want to get the negro on his feet for his sake and equally for your sake. I protest against the lynching and against burning of human beings in the South, not only because of the interest that I have in my race, but equally because I don't want to see any of God's sons and daughters having their souls lowered, narrowed, and embittered by inflicting unjust punishment upon any section of the human family. As I said, I am interested in my race, and interested in your race. We touch each other everywhere; in the South, especially when food is to be prepared, the negro touches the life of the white man. When clothes are being laundered, the negro touches the life of the white man. Often the clothes in the South go from the rich mansion to the dirty and filthy hovel of the ignorant colored woman who has had no opportunity to learn the lessons of health. We are bound together by ties we cannot tear asunder if we would. In their most tender years thousands and hundreds of thousands of little children in the South spend their years in the presence and in the hands of colored women, or rather colored girls. It is immensely important, for the sake of the colored women, and equally important for the sake of the health, happiness, and upbuilding of your race, that that colored woman or colored girl who plays such an important part in the rearing of a large portion of the white people—it is mighty important that she should be intelligent, that she should be clean,

that she should, above all things, be virtuous. We want you to help us.

You can help the negro in two ways—by being frank with him, telling him about his faults, and by praising him just a little more. The negro likes praise. I know him pretty well, and there are few races that will improve so much under the influence of praise as will my race. I remember when I was a young fellow, just about the close of the War, I had a few dollars. I had said that when I got enough money the first thing I was going to buy was a store suit of clothes. So I went straight to the store, when I thought I had cash enough. The man in charge of this store, when he found I had the money and wanted to buy a suit of clothes, said he had exactly the suit of clothes I needed, bought for my special benefit. He began to describe the suit of clothes, and I looked it over. He was looking at my pocket at the same time. The first thing I knew he had the coat on. I began to feel around and the sleeves were about six inches too short. Then the waist band came nearly up to my neck so I could not twist about or move much. But the storekeeper caught hold of the sleeves and began to pull them down and press them and praise the coat. Then he went around and pulled down the back part of the coat and began to praise that—said it was an imported coat, bought for my special benefit. Before I knew it I thought it was a pretty good coat. He got the pants on me and they were about six inches from my shoes, but he praised the pants, pulled the legs down, patted them, and pulled them down until I thought it was a pretty good pair of pants and a pretty good suit of clothes. He got my money and I got the suit of clothes. I went home. The next day was Sunday and I went to church. While at church a rain storm came on and the suit of clothes got wet. When it dried out it was about the size of a fig leaf. Now it was a pretty good suit of clothes, friends, so long as it had somebody to praise it. I have found that you can make very often a pretty good man of an indifferent man by praising him a little bit more. Whenever you have an opportunity, praise my race. As you come in contact with them as individuals, or in large numbers—whenever you can honestly do so, praise them.

And, lastly, when you go back to your own homes, seek an opportunity to actually get acquainted with my race. There are a lot of people in this country who know about the negro, who hear about him, who study him, who have examined him at a distance, but, my friends, very few people actually know my race. If you will take the time and the trouble to go into their homes, to get into the life of my people, to go into their churches, into their Sunday-

schools, in every one of your communities, you will find the negro has virtues you never dreamed of. I was in Sicily some years ago. I had always trained myself to hate the Sicilians and thought they were the most lawless and hateful and dreaded people in the world. I went away out into the country. I went among the peasant classes in Sicily and I ate their food, lived in their houses, lived their life for a number of days, and I came back loving the Sicilians and honoring them more than I had ever loved and honored any others outside of my own country before. I found I had not known the Sicilians. So when you go back home and find a negro, just one, say to yourself, "I am going to know this individual, I am going to put my life in touch with his life." I was in a college town a few months ago where there was great interest in the education of the colored people and after I had spoken to the students, as I usually do, I said to the college president, "Now I want to go to the colored church. I want to speak there." and he turned up his ears and eyes and said, "Well, where is the colored church?" Now there were seventy-five colored people right there in the shadow of that college and yet the college president did not know where the negro church was. So, my friends, every one of you, in your own way, at your own turn, get into the life of the members of my race. And finally, let me thank all of you, notwithstanding the fault that I have seemed to find with you—let me thank all of you for what you have done in bringing about race betterment among my race. Despite all the faults of America, and despite all the shortcomings of the white men and of the black men, when we look at this matter in the large—not in the little—you cannot find ten millions of negroes anywhere in the civilized or uncivilized world who have made such tremendous progress industrially, educationally, morally, and religiously as is true of the ten millions of negroes in the United States, and a very large proportion of that progress is owing to the fact that you have been more generous in helping forward my race than was ever true in all the history of the world when one race of a different history, of a different color, was dealing with the members of another race.

And so, Doctor Kellogg, we thank you for this opportunity of coming here and getting this inspiration, coming here and getting opportunity to resolve again and again that each will go back home and do our part in making our races better, more useful, more righteous. In doing that we shall have to overlook the little things that will be perplexing, the short-lived things of life. I was once traveling with an old man in South Carolina. When we got to Columbia, he went up to the city and stayed longer than he should. In

order to catch the last train by which we were traveling, and in his haste to get to the railroad station, he went to the first hack driver he saw and said, "Take me to the railroad station right away." The first hack driver was a white man. He had never driven a black man in his hack. He said, "I have never driven a black man in my hack." The negro said, "Boss, I have just got to get to the railroad station, that is all. I ain't got no time to discuss details." Then he said, "Mr. Whiteman, I will show you how to fix it. Just keep quiet. You just take the back seat and do the riding and I will take the front seat and do the driving." Overlooking perplexities, overlooking all these details, in a few minutes the white man and the black man, together, were at the railroad station. The white man got his quarter and the negro got his train. Overlooking all these little perplexing, tantalizing, short-lived details, through the leadership of this great movement, let us go forward with the surety that every day in the North and in the South and throughout the country white people and black people together are moving in the direction of the railroad station.

Discussion.

Sanitary Kitchens

HASTINGS H. HART.

I have been impressed as much as by any other thing since I have been here with the messages which we have had from Doctor Searey, of Alabama. I do not know how far you know the social movement of the South. The South is awakening with extraordinary force. In the state of Virginia there is a perfectly splendid social movement which has as leaders a group of young physicians who are going ahead and are doing things in the very finest possible social spirit. The spirit of Tennessee is waking up. The National Conference of Charities and Correction is to meet in the city of Memphis this spring and throughout the state of Tennessee you find a struggling and a striving toward the best things. Even the state of Mississippi is doing some fine things. I was perfectly astonished to find in the city of Jackson last year the finest kitchen I ever expect to see this side of heaven, a sanitary kitchen in the school for the deaf. The school superintendent searched the world over for ideas, then built an institution that may serve as a model for at least the whole Southern country. Somebody gave him five thousand dollars and he has established a sanitary kitchen which is beyond our conception. I do not know of any sanitarium or hotel in the United States that has such a kitchen as that and that is an object lesson for the whole United States.

The state of Alabama has been struggling with the prison question and doing away with the contract system, which was a most unfortunate thing. In the state of Florida there is an awakening along the line of children's work which is magnificent. The whole state has taken hold of the child and is developing in the state of Florida ideas that are fine. I had occasion to say to a Southern audience some time ago that the South has the greatest possible opportunities, just as Wisconsin and Minnesota and some of the other Western states have developed magnificent state institutions by profiting by the experience of the older states. Now the South has its opportunity to do the best things that can be done in the United States because it has the benefit of the experiments that have been carried out by educational and philanthropic institutions and social settlement and by the medical work of our great Boards of Health throughout the United States in experiments that have cost millions of dollars. The South can avail itself of them by simply going and looking at them, and when Doctor Searcy's predecessor, Doctor Price, built up in Alabama one of the most noble institutions for the insane in the United States and became a leader in that specialty, he did for the South an incalculable good. When he died, it was in the province of God that such a man was put at the head of that institution. Now the South is entitled to all the help we can give them. I am going from this place to Nashville to spend a week, by request, in lecturing in a very remarkable school, because it is a school where there is established, side by side, training for the white students and training for the colored students and preparation for the social and Christian work in the South.

THE SOCIAL PROGRAM

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We are in substantial agreement as to the steps that ought to be taken for race betterment, and we have been for years, but the steps are not taken. What is the matter?

In the first place, I wish to call attention to the fact that the program of society is mainly either to cure disease and evil or to prevent it. I wish to affirm that that is not an adequate program for society, any more than to keep a vessel off the rocks is an adequate set of instructions for the commander of a fighting fleet.

This is the best conference which has been held on the subject of race betterment, but let me read to you some of the titles of the subjects discussed at this splendid Conference: "Apparent Increase in Degenerative Diseases," "The Prevention of Arteriosclerosis," "The Significance of a Declining Death-Rate," "Some Efficient Causes of Crime," "Sterilization," "Hookworm," "The Deterioration of Civilized Woman," "The Cost of High Living as a Factor in Race Degeneracy," "Factory Degeneration," "The Health Certificate a Safeguard against Vicious Selection in Marriage," "Unbiological Habits," "Tobacco as a Race Poison," "Some Suggestions for a More Rational Solution of the Tuberculosis Problem in the United States," "The Effect of Alcohol on Longevity," "Alcohol: What Shall We Do about it?" "The Effect of Philanthropy and Medicine upon Race Progress," "The Function of the Dentist in Race Betterment," "Public Repression of the Social Evil." I affirm that these things, and consideration of these topics, are necessary, but properly fail as a program for society, and that there has not been proposed any program for society as yet. These are mainly steps to prevent race degeneration. We need measures by which we may better the race. To get a load up a hill is not identical with keeping it from sliding down hill: one needs power; the other can be accomplished by blocking the wheels.

I cannot better illustrate the stupidity, the ignorance, of our present method of dealing with social questions than to refer to two specific questions.

Take the subject of dancing. There are no statistics on dancing, because we all dance. During the last few years there have arisen in the civilized world new forms of dancing. They have more completely broken the traditions of the past, concerning dancing, than has ever been the case with the traditions of any other art; they have completely shattered them.

Apparently society has objected. During the early stages of the

dance craze, infatuation, hypnotism, movement—whatever word you please—there was practically unanimous condemnation by social workers, college presidents, women's clubs, newspapers, magazines, the Queen of England, the Pope in Rome, and all the rest of us. It had not one atom of effect upon the progress of the dance. That is, the measures which we directed, in the endeavor either to check or to control the flow of this public desire, were completely wide of the mark. We were stupid and ignorant of how to control dancing.

As was told us so graphically and I think so truly last night, there is substantial agreement on the part of all students of psychology and students of medicine and among most all thinking men and women that alcohol is damaging to the individual, to the home, and to the race; but seventy years of progressive warfare against it have been accomplished with a rather steady increase in its use.

I was talking about constructive philanthropy not very long ago and closed it by an appeal for what I called universal motherhood and universal fatherhood, the reaching out of every mother and every father to feel responsible that all the children in the community should have an opportunity for wholesome living. The distinguished superintendent of schools, who was presiding, arose and said he endorsed every word I said; that he believed that if every father of that community would reprove every boy every time he saw him doing wrong, the race would be greatly benefited. Could anything better illustrate wrong method? For if there is anything that will as surely damn every boy and girl, it is to be reproved every time they make a mistake or even do wrong deliberately. We have as yet developed practically no devices for the discovery of individual power or of community power or of righteousness. We have developed great engines for the discovery of weakness.

We do not succeed in the world because we have not diseases, or because we have not weaknesses. We succeed in the world, and are worth while and significant in the Province of God, in so far as we have some power. Can this generation devise a way of finding power?

Persons like ourselves are largely outside of the stream of human progress. What you and I do and think is interesting, but it has as much effect upon what the world does as what we said and did had upon how the world danced. It is well to remember that, and that the world is not changed by "resolutions." The age of specialization is making life stupid. The world will not tolerate monotony, but to avoid it will, if more interesting ways are not

provided, drink, dance, smoke and chew, and take cocaine and go on sprees. It will go on the street, and live in cities.

I speak now of the voice of the world-spirit. The human soul is not a thing primarily related to food and shelter and clothing; it is related to aspiration, and faith, and hope, and desire. The thing that burns inside is not to "never do" things. It is for the chance to do where there is adventure, where there is romance, where there is something going on. That chance we are taking away, and, so surely as that chance is taken away in one way, it will be taken in some other way. Drink and all these things are surely destined to increase unless there be ample opportunity for the human spirit to reach out into the world of beauty, into the world of romance, into the world of idealism. That "push up" which has made mankind is the thing that makes life worth living.

I am to speak of this subject specifically with reference to girls. I am to endeavor to present to you an illustration—not because we think that this is any general solution of these difficulties, but because it is an endeavor of a constructive type—the organization which we know as the Camp Fire Girls. I have prepared a brief statement of what we are trying to do.

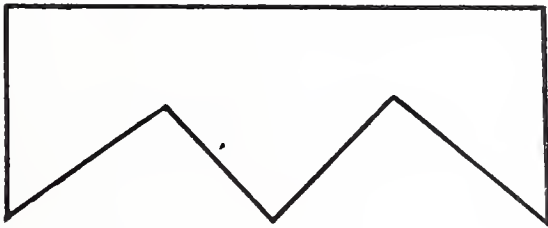
More than one-half of all the men and women—more than half is conservative—are going to have homes and are going to have children. In this, the finest occupation of human kind, the most wholesome women have the responsibility, the primary responsibility, of determining the character of the home and the character of the children. In view of this fact, the first education of all women should be that education which fits them to be good wives and mothers. It is also true in regard to the other careers—teaching, medicine, nursing, working in stores, and the like. It is also true that these careers into which women are entering rest upon those qualities which are developed in connection with the home. Hence, again, all education for women should be based upon the idea of her being a home-maker, and at least using the qualities which are developed by home-making.

In view of the fact that educational, religious, recreational, industrial, and many other activities which used to be carried out under woman's control in the home, are now carried out in the community, it has become evident that social affairs, such as garbage disposal and water supply, can no longer be handled by homes, but belong to the community. The time is past when each man can get clean water by going out and digging in his front yard. The same principle applies to social life, because social life is in the school, in the church, at the movies, on the street, in many other

places than in the home. The same kind of organization and finance and business administration which is demanded for a water supply is demanded for a social supply.

Hence, while the Camp Fire Girls base their ideals and program upon the home, they see that this ideal and program divinely involves the entire community. The Camp Fire Girls, then, is an organization of girls and women for the purpose of preparing for and carrying on what always has been woman's work, but which now involves the entire community—that is, the making of the spirit of the home dominant throughout the entire community. The Camp Fire is a mode of organizing the activities of every day into a definite, interesting program, and of revealing it as the most romantic and most desirable of anything there is in life. It is our aim, through the use of poetry, through the use of costume, through the use of design, through the use of ritual, of business, of ceremony, to brush off from the acts of daily life those things which prevent us from seeing that they are the things which are the most interesting.

Now very much against her feelings, I am asking Mrs. Gulick, *Hütini* (for each Camp Fire Girl has a new name which expresses her ideals), to tell you something more about this subject. I think she will forgive me if I tell you what *Hütini* means. It means the desire of accomplishment. Her sign is three points down this way:



I have asked her to put on her ceremonial gown, which is not usually shown in public, and to wear her honor beads, which belong to her own Camp Fire circle only, and to tell you, as she may, a bit about how romance is expressed.

MRS. LUTHER H. GULICK

Last evening a mother, who is also a Guardian of a group of Camp Fire Girls, said to me that the movement was the first one she had felt that she could go into and work, and at the same time be true to her home. Some of our strongest groups of Camp Fire Girls are conducted by mothers who have daughters of their own. We want these mothers in the movement.

The schools, and most organizations for girls, are taking daughters away from the mothers. These organizations make things center around themselves. In every way possible, Camp Fire Girls are fostering the mother-daughter relation. And how the mothers love it! I want to read you a poem from a mother. We are getting hundreds of poems, and many plays, which are inspired by the romance of this movement:

THE BEADS

It was a busy Saturday,
The day of all the week
When we of doing what we ought
Grow weary, so to speak;
I faced the dinner dishes, when
My daughter came with speed,
Saying, "Mamma, I'll do them all,
I want to earn a bead."
Surprised and pleased I went upstairs
With dustpan, brush and broom,
Thinking I would her reward
By clearing up her room;
She heard my steps upon the floor
And of my work took heed,
"Please do not touch my room, Mamma,
Or I shall lose a bead."
That night a sudden gale arose,
So softly as I could
I put one of her windows down,
As any mother would;
A sleepy voice came from the dark,
"It isn't going to rain,
Both windows must be opened wide
If I a bead would gain."
An air of interest now surrounds
The most prosaic task;
I scarcely dare my work to do
Till I permission ask,
Lest I should make my daughter break
Some rule which she should heed,
And so, though inadvertently,
Cause her to lose a bead!
But when her cord at length is full,
Its varied tints will tell
Of patient effort day by day,
And many tasks done well;
And as I realize how time
Rich fruitage brings from seeds,
I say, God bless the Camp Fire Girls,
And their quaint chain of beads!

Another mother sent us a few days ago a poem which she said was her first attempt at writing in rhythm. What is beautiful about this is that our ceremonies, costumes, beads and desires are awakening the imaginations of girls and mothers, and they are doing things that they had no idea they could do. We are looking for beauty, and it is surprising how it comes out. The "counts," the official records of meetings, are written in as beautiful a form as possible, and the girls are illustrating the good times they have together. They draw because they have something to draw; they write because they have something to write about, and they are encouraged in every attempt. It is surprising how easy it is for a girl to express herself in the Hiawatha rhythm, if you tell her that she can. The writing in rhythm makes her see things that she would not otherwise see. She notices the sunsets, the birds, the shadows, the beauty in the people about her.

Here is a letter from a girl:

"Camp Fire work has meant a great deal to me. It has made me think of things that I would not otherwise have thought of. For instance, it has made me want to do work around the house which I used to think myself too preoccupied to think of doing. Of course I did such things as make my bed, put my room in order, make cakes, cook, sew, wash and iron, but when I did them to win honors, I began to find out that I liked to do them and did them afterward because I wanted to.

"Then again I was never very much interested in facts concerning my health. Always having had good health, I had nothing to remind me of little and sometimes big things which might prove injurious, for mother always took care of my health for me and when I wasn't with mother any more, I left my health to take care of itself, but Camp Fire has taught me why I should think seriously of these things and try to hold on to the good health God gave me.

"Camp Fire has given me many happy evenings. One thing that I dearly love is for a 'bunch' of girls to get together and laugh, talk and have a jolly good time. I love all kinds of outdoor sports and I love Camp Fire because it approves of all the things I love and assures me that a girl has a perfect right to and in fact should care for such things."

Another girl writes:

"I have become acquainted with a number of very nice girls because when they see I am a Camp Fire Girl (which they see by

my ring), they begin to talk to me and we soon are carrying on a very interesting conversation about our respective Camp Fires.”

I can't tell you much in the few minutes I have. Much of the work of the Camp Fire Girls is difficult to put into words. It is a viewpoint, a spirit. Some of the things that are happening can be described, but the spirit that is binding girls closer to their mothers and older girls to little girls through the new organization of the Blue Birds is not on paper. There is a most beautiful story to be told sometime about this part of our work which has only begun. How the little girls love the attention of their older sisters or their sisters' friend! Think of all that may grow out of that relation! Older sisters like the excuse of helping to dress dolls, for are they not going to have to dress their own little children in the near future! Girls love it and there is every reason in the world why they should love it, only we do not give them half a chance.

DR. LUTHER H. GULICK

I wish to close with another illustration of a positive program. During my own college days I made the usual number of good resolutions and broke them. I would resolve to take exercise every day, then days would come when I could not. I resolved to do so much good reading every day, then days would come when I could not, and finally I give up making good resolutions, realizing—and it is a very bad thing to realize it, whether it is true or not—that I was a moral weakling. Now the trouble with my resolutions was that they were based on a twenty-four-hour program. We cannot live on a twenty-four-hour day. We can live on a week's program.

Now this program which is announced tonight for the first time publicly, although it has been in print, is called the “straight-on” program. It is a device to enlist custom and attention in favor of the things that you and I have believed in since we were children, but which have never been put together as a definite program before—the kind of custom that makes us men wear our hair short or relatively short and you women wear it long. Those are the forces I am talking about. I am not talking about conventions or resolutions. It is called the “straight-on” program. It is for persons eighteen and over. A “straight-on” is a person who keeps his body, mind, and heart fit for their most splendid work by living straight-on. A straight-on refuses to be diverted from the main business of life by opportunity or temptations. Opportunity is

sometimes even worse than temptation. A straight-on refuses to undertake more than her time and strength allow, for she sees that this is foolish and short-sighted. She goes straight on, quietly, graciously, steadily, but always straight-on. The pin is to be a little half-inch bar of gold which may be worn here on the left breast when one has lived the "straight-on" program for one month. It may be taken off any moment. Then you are free. But it cannot be put on again until you have lived it a month—and you are the only judge. There is no promise, or oath, or resolution. This particular thing is a device for standardizing, and making practical, ideal resolutions.

The program is as follows. It is divided into three parts: Physical, mental, and spiritual.

PHYSICAL: Sleep not less than sixty hours per week. Now if you want to sit up, or stand up, or waltz up, at a dance till two or three o'clock in the morning, all right, do it, but pay up. If there is sickness in your family and you ought to stay up at night, get up, but pay up, too: for that is required as much as the other. The person who does not know enough to pay his debts has no right to go on. Sleep sixty hours per week as a minimum. Many need more than seven hours of outdoor exercise each week. Some days you cannot pay up. That counts. Walk to your work, to school and home again. The great majority of us who lead sedentary lives do not average one hour per day of outdoor exercise. Those two things alone will alter the lives of most of the people in most communities. Eat between meals only when it is socially necessary, and then as sparingly as possible.

This aims to be a practical program, not one of these theoretical things you can defend with eloquence but cannot really live up to. You can live up to that. Keep clean inside and outside. Do it regularly and thoroughly. Ideas spread curiously. In business, in school, on the street, dress as quietly and simply as custom permits. At other times, make it a point to add the charm of form and color to social life. That is all there is under the head of physical. That is practical, isn't it? Isn't it more than some of you do?

MENTAL: Read, own and reread each year not less than three strong books having thought new to you, not fiction or poetry—not that fiction and poetry do not have their place, but they belong in another place. Most people, as James says, "stop thinking before they are thirty." No new social enterprise was ever carried through by the change of public opinion in people who are middle aged. There was practically not one prominent Englishman of science over forty who publicly acceded to Darwin's position. It involved too

great a mental adjustment. He had to wait for a generation. The reason the Camp Fire Girls begin with girls, instead of with you, is because girls are more susceptible of new ideals than we are. To read three new books each year means permanently keeping out of intellectual ruts. Carry on some course of study by mail or otherwise, a course of lectures or anything that means going on, going on, going on. There is no physiological or psychological reason for stoppage of growths.

SPIRITUAL: Be alone and think out your own ideals toward progress at least for four fifteen-minute periods a week. How fares it with you, your ideals for the expression of affection in your own home, your own brothers and sisters, your schoolmates? How about that old misunderstanding? Is there some way of cleaning it up? Be alone, face to face with your own soul, fifteen minutes four times a week. Get acquainted with some great poetical message each year.

That is the "straight-on" program. And I want to give a guess that there are going to be tens of thousands of young people who will say, "That is what I want to do." And I think that is what this Conference desires to do, to propose definite, concrete subjects of a practical kind by which people may attain these large results towards which we aim.

We have learned to take the genius of an Edison and organize great corporations. The telephone and the telegraph form a network over the entire world. The genius of the one man influences the lives of all civilized beings. We have learned how to develop and use the genius in the world of physics, in the world of chemistry, in architecture. Can we devise a social instrument by which human combination shall be brought about so that ideals of beauty and romance and adventure shall be given opportunity in lines that make for wholesomeness of human living? That is the spiritual again. We can get on with our diseases, we can get on with our degenerates, we can survive with some insanity; but we cannot survive without an opportunity for the human spirit to reach out into lines that are good and wholesome. "Man shall not live by bread alone."

EUGENICS AND IMMIGRATION

NEEDED—A NEW HUMAN RACE

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We have wonderful new races of horses, cows, and pigs. Why should we not have a new and improved race of men?

When Boston Blue trotted a mile in three minutes and won a prize of \$1,000 in 1818, the world was more surprised than when Lou Dillon made a mile in two minutes at Readville in 1903. A century of breeding and training added fifty per cent to the efficiency of the trotting horse. During this same century the application of the laws of eugenics and eugenics to animal breeding has produced many varieties of thoroughbred livestock which, in some cases, are possessed of such superior and remarkable characteristics as to virtually constitute new species. This has been accomplished by breeding out defects and supplying through successive generations environmental conditions the most favorable possible for the development of desirable characteristics.

A new species of milch cow has been produced which shows a continuous record for seven days of more than three pounds of fat per day.

A new species of hen has been developed which lays 300 eggs a year. Every animal which man has gathered from the forest and the plain and domesticated, he has improved until they are more efficient and in every way finer than their wild ancestors.

By the application of the same principles to the vegetable world, even more marvelous results have been produced. From the little sour wild apple has been developed the hundreds of varieties of delicious apples which load our orchards every autumn. New species of wheat and corn have been created which produce double crops, that are able to thrive in deserts. The little tasteless watery tuber found in the Andes has been transformed into the wonderful potato, which gives us our most important vegetable crop. Insignificant desert weeds, by the magic hand of a Burbank, have become the floral marvels of our greenhouses and parks. The United States Agricultural Department has just announced the perfection of a blueberry nearly three-quarters of an inch in diameter, which may be cultivated the same as any other garden fruit.

Man has improved every useful creature and every useful plant

with which he has come in contact—with the exception of his own species.

The attitude of the average man toward the question of human eugenics is well illustrated by the story told of a New York merchant, who had four full-blooded dogs and two young sons. A friend, observing that he employed a tutor for his boys while he cared for his dogs himself, said to him one day:

“Mr. Smith, why do you give your personal attention to your dogs and turn your boys over to a tutor?”

“Oh,” said the merchant, “my dogs have a pedigree.”

To one who has not given this matter special thought, the idea of a new human race will probably seem absurd, almost ridiculous. Isn't the *genus homo* the finest thing on earth, and isn't the race making marvelous progress every year? Why talk about a new race when the average length of human life has doubled within two centuries, and when greater progress in the arts and sciences has been made within a century than in all the previous centuries of human history?

Unfortunately, a careful examination of the evidences of human progress discloses the fact that the upward trend relates exclusively to art, science, ethics, and other matters pertaining to the intellectual and social life of the race.

The idea that the human race is degenerating is very naturally highly unpopular. Racial and national pride naturally lead us to believe that the race is, in every way, advancing and improving. The evidences of improvement through discovery, invention, and especially the accumulative knowledge and experience of all past generations, are so numerous and striking that we naturally conclude that the progress, which is so apparent in many directions, is equally great in all.

The fact that the average length of human life has more than doubled in the last two hundred years has been accepted as conclusive evidence that the vital stamina of the race is improving—that longevity is increasing.

Notwithstanding this apparent progress, for nearly half a century the suspicion has been creeping into the minds of thinking men that, after all, the human species may not be making such real and permanent progress as might be supposed. As long ago as 1892, Prof. Ray Lankester wrote:

“The traditional history of mankind furnishes us with notable examples of degeneration. High states of civilization have decayed and given place to low and degenerate states. At one time it was a favorite doctrine that the savages were degenerate descendants

of the higher and civilized races. This general and sweeping application of the doctrine of degeneration has been proved to be erroneous by careful study of the habits, arts, and beliefs of savages: at the same time there is no doubt that many savage races, as we at present see them, are actually degenerate and descended from ancestors possessed of a relatively elaborate civilization. As such we may cite some of the Indians of Central America, the modern Egyptians, and even the heirs of the great oriental monarchies of pre-Christian times. While the hypothesis of universal degeneration as an explanation of savage races has been justly discarded, it yet appears that degeneration has a very large share in the explanation of the condition of the most barbarous races, such as the Fuegians, the Bushmen, and even the Australians. They exhibit evidence of being descended from ancestors more cultivated than themselves.

“With regard to ourselves, the white races of Europe, the possibility of degeneration seems to be worth some consideration. In accordance with a tacit assumption of universal progress—an unreasoning optimism—we are accustomed to regard ourselves as necessarily progressing, as necessarily having arrived at a higher and more elaborated condition than that which our ancestors reached, and as destined to progress still further. On the other hand, it is well to remember that we are subject to the general laws of evolution, and are as likely to degenerate as to progress. As compared with the immediate forefathers of our civilization—the ancient Greeks—we do not appear to have improved so far as our bodily structure is concerned, nor assuredly so far as some of our mental capacities are concerned. Our powers of perceiving and expressing beauty of form have certainly not increased since the days of the Parthenon and Aphrodite of Helos. In matters of the reason, in the development of intellect, we may seriously inquire how the case stands. Does the reason of the average man of civilized Europe stand out clearly as an evidence of progress when compared with that of the man of the by-gone age? Are all the inventions and figments of human superstition and folly the self-inflicted torturing of mind, the reiterated substitution of wrong for right and of falsehood for truth, which disfigure our modern civilization—are these evidences of progress?

“In such respects we have at least reason to fear that we may be degenerate. It is possible for us—just as the Ascidian throws away its tail and its eye, and sinks into a quiescent state of inferiority—to reject the good gift of reason with which every child is born, and to degenerate into a contented life of material enjoyment accom-

panied by ignorance and superstition. The unprejudiced, all questioning spirit of childhood may not inaptly be compared to the tadpole tail and eye of the young Ascidian: we have to fear lest the prejudices, preoccupation and dogmatism of modern civilization should in any way lead to the atrophy and loss of valuable mental qualities inherited by our young forms from primeval man.

“There is only one means of estimating our position, only one means of so shaping our conduct that we may with certainty avoid degeneration and keep an onward course. We are as a race more fortunate than our ruined cousins—the degenerate Ascidians. For us it is possible to ascertain what will conduce to our higher development, what will favor our degeneration. To us has been given the power ‘to know the cause of things,’ and by the use of this power it is possible for us to control our destinies. It is for us by ceaseless and ever hopeful labor to try to gain a knowledge of man’s place in the order of nature. When we have gained this fully and minutely, we shall be able by the light of the past to guide ourselves in the future.”

Scores of others have seriously raised this question of race degeneracy. In a recent able work entitled, “Is Mankind Advancing?” Mrs. John Martin strongly discounts our boasted progress. Indeed, she offers very strong proof that we are rapidly drifting in the opposite direction. She declares: “We have lost our way. Men are headed ape-ward quite as frequently as angel-ward. Time runs an elevator which goes both ways, down as well as up.”

Then this able writer draws the following impressive picture:

“Looking back along the line of history, we can see that we (Mankind) have been traveling a long, long road whose winding way, rising and falling century after century, we can trace back for a few thousand years until it enters a trackless desert and fades utterly from our view in the mists of antiquity. Immediately behind the spot where we now stand there seems to lie a downward slope, that is to say, we seem to have been ascending since the eighteenth, the seventeenth, yes, part of the sixteenth centuries. But the Elizabethan era and the period of the Renaissance in Italy do not lie below us. Life was very full and splendid then; man had climbed to a higher point of outlook than that upon which we now act out our little day. Behind those centuries the way becomes obscure; it seems to pass through deep and silent forests, over dim, somnolent plains, in shadowy twilights and through deserted wastes, until it falls away into a wide, cold swamp, noisome, dark, terrible, abounding in reptiles and the horrid monsters of sick dreams. Beyond this deathbound stillness of the Dark Ages, the road ascends

again into the upper air. Birds are singing, the sunlight touches the grain fields; the bustle of human life appears, troops of soldiery in glittering armor, citizens in gorgeous raiment, all the pomp and pageantry of the triumphant Roman Empire. Behind Rome the road drops away again suddenly, a deep sharp drop into a valley, beyond which it begins to rise once more and, becoming steeper and steeper, it lifts our gaze to the very mountain top, where among the clouds against the deep blue sky, swept by fresh breezes, enthroned amid snow-white temples, gleaming in the golden sunshine, Greek civilization sits upon the pinnacle of human greatness."

It has been suggested that the real mental status of a people or a generation may be judged by the proportion of men of genius produced by it. An examination of twenty-seven names of men of transcendent genius, universally recognized as such, and representing all nations and all time, has shown, states Mrs. Martin, that eleven were produced by one small district. Ten of them were brought forth by one small city about the size of Fall River, Mass., or Paterson, N. J. "The little city of Athens produced in a few years more men of consummate genius than did all the millions of inhabitants of China, Arabia, India, Palestine, Rome, Carthage, and all of Europe breeding for two thousand years!" In the face of such facts can we feel altogether confident that the race is gaining in mental fitness and capacity?

Within the last ten years numerous scientific men of world-wide renown have given thought to this question and have uttered warnings of unmistakable import.

Dr. Mayer, of the Marine Biological Laboratory of Tortuga, in a biographical sketch of the late Prof. Alpheus Hyatt, of Boston University, one of the leading biologists of this country, calls attention to the view held by this distinguished scientist—that the race, like the individual, has only a limited store of vitality and that both must develop, progress, decline and die in obedience to one and the same law. Thus the growth-stages of the individual actually resemble the stages in the evolution of the race to which it belongs; as he puts it, "the cycle of ontogeny is an individual expression and abbreviated recapitulation of the cycle that occurs in the phylogeny of the same stock." "Phylogeny, like ontogeny, is first progressive and thus attains an acme of progress." This acme is followed, however, by a stage of "retrogression ending in extinction."

He also believed in the inheritance of acquired characters, and held that the organism is plastic and irritable and responds to external stimuli by internal reactions which manifest themselves as hereditary modifications of structure. It is interesting to see that

the recent researches of Tower and MacDougal have shown that artificially produced changes in the environment may affect the germ-cells and produce hereditary modification of structure.

Hyatt believed that he demonstrated through his researches in fossil shells that acquired characters may become hereditary. Concerning one feature to which Professor Hyatt called attention, Doctor Mayer remarks:

"It is hard to escape the conclusion that this is actually an acquired character which becomes hereditary, and finally appears at a stage earlier than that in which it first developed. Indeed, it is one of the classic instances of an acquired character, and one of the best established cases of this sort in the whole field of zoology."

The view of Professor Hyatt, without some modification, is indeed pessimistic. It leaves no possible room to escape physical degeneracy and race extinction. The race of man must become extinct as have already most of the races of higher vertebrates who were the contemporaries of man in the Cave-dwelling period. The only escape from this dismal end must be found in a recognition of the danger and a race-wide struggle against race enemies. Through his intelligence man has subdued many of the great forces of nature, tamed and harnessed them, and made them useful servants. Thus he is able to escape the natural operation of physical law, to defy gravitation, to soar in the heavens like a bird, to dodge the terrors of the thunderbolt and make it pull trains and propel ships. Likewise, by an equally intimate study of the laws of eugenics and eugenics, and by a whole-hearted effort to conform himself to the biologic laws which govern his being, man may escape the destructive influences which have exterminated other races of animals, and which with equal certainty will destroy man unless he intelligently and persistently combats the exterminating cosmic forces to which every living creature is amenable.

That the human race is actually degenerating, at least in spots, can no longer be doubted. The late Sir Alfred Wallace maintained that the race has not improved either mentally or morally since old Egyptian times. He insisted, in fact, that considering our possibilities and our opportunities, we are worse morally than were the Egyptians or any other people who lived before us.

Mr. Charles H. Ward, in a paper read at the thirty-seventh annual session of the American Dental Association, concludes that the tooth-brush has not become a necessity because of the special development of the human teeth, but is required because man's teeth are old-fashioned, really out of date, and on the road to degeneracy.

"That a retrograde evolution or degeneration of these organs is

at work in man is apparent to the student of physical anthropology. To him each upward stride of civilization, of ethnic superiority, is associated with indubitable evidences of structural inferiority; so that the evolutionist's prophetic vision of the 'coming man' as a bespectacled, bald-headed, and edentulous individual of infantile proportions but preternatural intelligence, appeals to him as a not impossible result of modern life."

Scott Nearing, Professor of Economics in the University of Pennsylvania, in the *Popular Science Monthly* for January, 1911, showed that the native-born population of the United States in the year 1800 was doubling itself by natural increase every twenty-five years. A continuation of this ratio would have made the native-born population in 1900 about 100,000,000. The same rate of increase continued would have made a population of 800,000,000 by the year 2000 A. D., and by the year 2100 A. D., the native-born population of the United States, by natural increase, would have reached the number 12,800,000,000. The native-born population in 1900, instead of being 100,000,000, was only 41,000,000. An examination of the census figures from decade to decade shows a steady decline in the rate of increase of the native population until, during the last decade of the century, the native population of the United States increased only 18 per cent. It has been suggested that at the present rate of decrease the birth-rate will become zero within a century and babies cease to be born.

Sir Ray Lankaster, in the *London Telegraph*, states:

"Civilized mankind appears to be very nearly completely in a condition of 'cessation of selection.' It is the better-provided and well-fed, well-clothed, protected classes of the community in which the cessation of selection is most complete. Racial degeneration is, therefore, to be looked for in those classes quite as much as in the half-starved, ill-clad, struggling poor, if, indeed, it should be expected to be more strongly marked in them. These are facts which tend to show that such anticipations are well founded.

"Meanwhile, it seems that the unregulated increase of the population, the indiscriminate, unquestioning protection of infant life and of adult life also—without selection or limitation—must lead to results which can only be described as general degeneration. How far such a conclusion is justified, and what are the possible modifying or counteracting influences at work which may affect the future of mankind, are questions of surpassing interest. In any case, it is interesting to note that the cessation of selection is more complete, and the consequent degeneration of the race would, there-

fore, seem to be more probable in the higher propertied classes than in the barefooted toilers."

Prof. Karl Pearson, Superintendent of the Galton Laboratory, according to the London *Standard*, utters a grave warning to the effect that population in civilized countries is recruited far more extensively than formerly from the less fit elements of the community. The world can be rescued from the control of the decadent (physically, morally, mentally) only by rigid application of the principles of eugenics. It is objected by opponents of the theories of Galton that love can never be based upon a scientific promise. Hence the eugenic marriage is not practical. To this Prof. Karl Pearson replied in the words of the late Sir Francis Galton that it is possible to give to the eugenic ideal the force and intensity of a religious idea.

Doctor Tredgold, an eminent English authority, writing on eugenics in the July, 1912, *Quarterly Review*, presents a number of new and convincing facts showing an unquestionable trend of the English race toward race degeneracy.

First of all, Professor Tredgold considers the notable decline in the death rate within the last half century and its relation to the question of race decadence. In 1865 the death rate per thousand persons in England and Wales was 21.4. In 1911 the death rate was only two-thirds as great, or 14.6. Statistics show that there has been in England a decline in the death rate in all ages under 55. Notwithstanding this, says Professor Tredgold, "it would be extremely fallacious to conclude that a diminished death rate is any indication of an increased power of resistance to disease and an improvement in the inherent vitality of a people."

The writer has for more than thirty years maintained that the death rate, or, in other words, the average longevity, is not a proper measure of the vigor of a nation, but rather the maximum longevity. The death rate has declined, as Doctor Tredgold well remarks, "not because the nation is more resistant to disease, but because modern science has lessened its incidence and modern skill in treatment has diminished its fatality." The prevention of plagues by quarantine, the suppression of smallpox by vaccination, the control of typhoid fever by safeguarding water supplies, the better protection in infancy, and the marvelous strides which have been made in medical science, have not improved the vitality of the race but have simply served to keep alive a large number of feeble infants who otherwise would have perished. The result is that the beneficent activities referred to have actually served to diminish the average strength and vigor of the race.

Doctor Tredgold demonstrates by statistics gathered from various friendly societies having an aggregate membership of nearly a million and a half that, notwithstanding all the advances made in the prevention and cure of diseases, there has been a steady and marked increase in the average amount of sickness at all ages as shown by the Report of the Actuaries appointed in connection with the National Insurance Act of 1911.

A careful study of the returns of the Registrar-General of England shows, according to Doctor Tredgold, that out of every 1,000 children born today as many infants die from "innate defects of constitution" as fifty years ago; and this notwithstanding that the total death rate of infants has been diminished nearly one-third. In addition to this, it is well known that a great number of feeble infants are today kept alive by scientific feeding and improved care in other respects who fifty years ago would certainly have perished. It is evident, therefore, that the proportion of feeble infants born into the world is at present very much greater than fifty years ago.

This has been made still more evident by reports of the Chief Medical Officer to the Board of Education, which show that of the six million children registered in the public elementary schools of England and Wales, far more than half of the children show very pronounced evidence of inherent constitutional weakness. This terrible fact perhaps bespeaks more loudly than could any other the presence of an active trend in the English race toward degeneracy and ultimate extinction.

The increase of insanity is cited by Doctor Tredgold as another evidence of race degeneracy. While the increase of the population of England and Wales in 52 years has been 85.8 per cent, the increase of the certified insane has been 262.2 per cent. At the present there is one insane person to every 275 of the normal population of England and Wales. This fact, as Doctor Tredgold says, is, to say the least, "very disquieting." But, as the Doctor still further shows, "there is even a more numerous class suffering from a still more serious condition, inasmuch as their incapacity is not possibly temporary, but is permanent and incurable. These are the feeble-minded."

Of this class, there is now known to be in England not fewer than 150,000, making a total of 290,000 mentally affected persons in England and Wales, besides "a vast horde of persons discharged from asylums, whose mental condition is decidedly unsatisfactory; and an additional army of individuals who, although they have not yet been committed to asylums, are nevertheless of feeble and unstable mental constitution and may well be described

as potential lunatics." Doctor Tredgold makes the remarkable statement that in England and Wales the mentally infirm constitute "well over one per cent" of the entire community.

Another evidence of racial decline presented by Doctor Tredgold is the proportion of paupers. The number of vagrants and paupers is shown to be increasing, and this notwithstanding the enormous amount of relief work afforded by the church, Salvation Army, charitable societies, and committees, hospitals, homes, refuges and other charitable agencies of a private character. It is evident that in England and Wales there is a steady increase "in the proportion of those persons who are unable or unwilling to subsist by their own efforts," so that it costs Great Britain half as much to support her army of paupers as she expends upon her entire military establishment.

The foregoing and other indisputable facts lead Tredgold to say: "It is impossible to avoid the conclusion that at present England contains an increasing number of people who are failing to adapt themselves to the exigencies of the times, who are not keeping pace with the increasing demands which civilization entails, and who are deficient in the capacity to carry on the progress of the nation and of the race. It seems probable, in view of the history of nations in the past, that much of the present social and industrial unrest and of the movements towards communism is also an expression of the same increasing physical and mental incapacity, and of a waning spirit of grit and independence."

Tredgold shows that mental unsoundness, lunacy, idiocy, imbecility, and feeble-mindedness may be traced to hereditary influence in 90 per cent of the cases. Mr. David Heron and others have shown that while there has been a marked decline in the birth rate in the population in general, the diminution is almost entirely confined to the healthy and thrifty class. In a section of population numbering a million and a quarter persons, thrifty and healthy artisans, the decline in the birth rate in twenty-four years, 1880 to 1904, was over 52 per cent, or three times that in England and Wales as a whole. Study of a large number of families of the working class of incompetent and parasitic character found that the average number of children to the family was 7.4, while in thrifty and competent working families the number was 3.7. In other words, the incompetent and defective classes are multiplying far more rapidly than are the competent and efficient.

Doctor Tredgold ends his very striking presentation of the evidence of race degeneracy as follows: "Life on this planet is so constituted that it can only progress by the survival and propagation

of the biologically fit and the elimination of the unfit. In the course of man's evolution a stage has been reached at which this process has been reversed, with the result that the race merely marks time, while successive nations ebb to and fro in a ceaseless rise and fall. I believe that this is but a phase, and that the time will certainly come when the antidote of eugenics will be applied, and man will continue his progress; and I have no hesitation in saying that the nation which first grasps and applies this principle will thereby secure such an advantage in increased efficiency that it will rapidly become the predominant power."

Numerous other writers have, in recent years, called attention to the marked evidences of race degeneracy which appear at every hand. An admirable summary of the situation was presented in the form of an indictment in a paper by E. E. Rittenhouse, then Conservation Commissioner of the Equitable Life Assurance Society and now President of the Life Extension Institute, read before the National Conservation Congress, Indianapolis, Ind., Oct. 2, 1912, which we quote as follows:

"With all its blessings modern civilization has introduced hazards, habits and conditions of life which not only invite, but which have increased in many ways, physical, mental and moral degeneracy.

"Our birth rate is steadily declining, and at the same time the span of life is steadily shortening.

"Twenty-seven per cent of our annual deaths are of babies under age five; 200,000 of them die from preventable disease; about 150,000 of these are under age one.

"To offset this waste of life, large families are demanded. Would it not be well to stop this needless destruction of infants before asking for an increase in the supply?"

Degenerative Diseases Increasing at All Ages

Rittenhouse has shown by a study of the Massachusetts State Registration Reports that between 1880 and 1909, a period of thirty years, there was an increase of nearly 100 per cent in the mortality from degenerative diseases. The increase at each age is shown in the following table:

Ages	1880	1909	Increase	Per Cent of Same
All	23.21	43.26	20.05	86.38
Under 5	7.92	10.36	2.44	30.8
5-9	2.95	3.95	1.04	35.7
10-14	2.85	4.72	1.87	65.6
15-19	3.10	5.43	2.33	75.2
20-29	4.95	8.09	3.14	63.4
30-39	10.13	18.79	8.66	85.5
40-49	19.70	37.84	18.14	92.1
50-59	39.01	91.30	52.29	134
60-69	102.05	212.93	110.88	108.7
70 and over	261.1	558.2	297.1	113

In New Jersey between 1880 and 1910 the mortality rate from organic diseases of the heart, apoplexy, and disease of the kidney increased from 16.5 to 34.3 per ten thousand population, an increase of 108 per cent.

The death rate of the total population, aged 40 and over, increased in thirty years, between 1880 and 1910, in Massachusetts and New Jersey 21 per cent.

In sixteen of the largest cities of the country the increase was 25 per cent.

Regarding the causes of this increase, Rittenhouse says:

"It would seem an entirely reasonable conclusion that while the average length of life has advanced, the extreme span of life has not done so; in fact, the indications are that it has been shortened. Our failure to adapt ourselves to the extraordinary changes and strains of modern existence is commonly accepted as the cause for this excessive mortality in the later age periods. Even though the statistics indicated no increase, the urgent need for correcting our living habits would still exist.

"We may agree that in the long run the trend of humanity is ever upward, and that this is but a temporary reaction, but can we afford to rest wholly upon the hope that race deterioration will automatically cease when our people have had time to adjust themselves to modern conditions? Wise men doubt it. This problem will not solve itself; this adverse tendency will be checked only when our people are made to see conditions as they actually exist, and are aroused to the need of correcting them."

"Of the 20,000,000 school children in this country not less than 75 per cent need attention for physical defects which are prejudicial to health.

"Insanity and idiocy are increasing.

"Diseases of vice, the most insidious enemy of this and future generations, are spreading rapidly, according to medical men. So far we have lacked the moral courage to openly recognize and fight this scourge.

"Alcohol and drug habits are constantly adding new victims to the degenerate list and to the death roll.

"Suicides are increasing and now reach the enormous total of about 15,000 annually.

"Lynchings and burnings-at-the-stake continue and are common only to our country.

"Attempts upon human life by individuals and mobs under trifling provocation, or none at all, are obviously increasing.

"Over 9,000 murders are committed every year, and it is esti-

mated that but an average of 116 murderers are executed for their crimes. We have the appalling estimated homicide record of over 100 per million population as against 7 in Canada, 9 in Great Britain and 15 in Italy.

"In the United States the death rate above 40 has increased steadily for years (about 27 per cent since 1880), while it has remained virtually stationary in England and Wales.

"The important organs of the body are wearing out too soon—the diseases of old age are reaching down into the younger age periods.

"The death rate from the degenerative diseases of the heart, blood-vessels, and kidneys, including apoplexy, has increased over 100 per cent since 1880. These diseases claim over 350,000 lives annually.

"The doctors tell us that fully 60 per cent of these deaths are preventable or postponable if the disease is discovered in time.

"Periodical health examination would detect these chronic diseases in time to check or cure them. No public campaign to educate our people to this vital need is being carried on.

"All of our money, all of our energy, seem to be directed against diseases that can be communicated. Is not a life lost from Bright's disease as valuable as one lost by typhoid fever?

"The annual loss from pneumonia aggregates 133,000 lives—a large portion of which is due to weakened bodily resistance resulting from degenerative affections.

"Cancer, a baffling disease of the degenerative class to which our people in their present physical condition are highly susceptible, claims 75,000 lives annually and is increasing very fast. Deaths from external cancer alone have increased 52 per cent in ten years.

"Pellagra, a deadly plague new to this country, is increasing rapidly in some of our Southern states, and it excites but slight public concern.

"Over 150,000 Americans are destroyed annually by tuberculosis. We know how to prevent it, but our tax-payers object to the expense and leave the battle almost wholly to charity.

"Nearly a million afflicted people are spreading the poison of tuberculosis to the well, with virtually no official restraint or supervision because of the expense.

"Over 25,000 Americans are still sacrificed annually to the preventable filth disease—typhoid fever. About 300,000 suffer from it and are more or less impaired by it.

"Other germ diseases are wasting more lives than typhoid and tuberculosis combined. We are warring against them, but com-

pared to the lives still being lost, our efforts are feeble and only partially effective.

“Over 90,000 Americans are killed annually by accidents and various forms of violence. Our efforts to prevent the steady increase of this waste have failed.

“The annual economic loss due to preventable disease and death is conservatively estimated at \$1,500,000,000 and our fire loss at about \$250,000,000.

“To prevent fire waste our cities spend through the public service approximately \$1.65 per capita, and to prevent life waste 33 cents per capita.

“It is estimated that 1,500,000 of our people are constantly suffering from preventable disease, and that during the next ten years American lives equaling the population of the Pacific Coast and Rocky Mountain States (over 6,000,000) will be needlessly destroyed if the present estimated mortality from preventable and postponable disease continues.”

According to the report of the Committee of the American Prison Association, 10,000 murders are committed in the United States every year—more than the aggregate number in any other ten civilized nations, with the exception of Russia.

According to Doctor Hoffman, the world's greatest statistician, a most conservative authority, homicide in the United States is increasing. The rate for the urban population, 1881 to 1891, was 5 per hundred thousand. From 1900 to 1910, the rate was 7.2 per hundred thousand. In England the rate is only .9 per hundred thousand.

This condition, says Doctor Hoffman, “is not compatible with the common assumption that actual progress is being made in the United States in all that is summed up under the term civilization and national welfare.”

As regards the causes of race degeneracy, opinions are divided. In general, two great causes are in operation—heredity and environment. Which of the two is the more active, it may be impossible to say. There are those who maintain that environment has little if any influence upon the germ-plasm, and that acquired characters are not transmitted by heredity. The results of recent researches, however, seem to indicate that the influence of environment may be much greater than some have supposed. McDougal, for example, claims to have produced mutations, that is, created new species by injecting chemicals into the ovary of a plant. Tower, using heat as a stimulus, produced a beetle of a very light color.

He proved that this character had become fixed by crossing with a beetle of normal color. Starvation of insects in the larval stage has been shown to produce dwarfs in later generations.

Hammerer, of Vienna, has conducted in the Laboratory of the Institute for Experimental Evolution, a great number of experiments for the purpose of determining the possibility of the transmission of acquired characters, and with some most remarkable results. Frogs have been produced which retain tadpole characteristics and transmit them to their progeny, in a manner which would be expected from Mendel's law, but this question is largely technical and may be left for the biologist to settle.

Whether the results of bad habits are directly transmitted or not, it cannot be denied that hygiene or eugenics is essential to race betterment. All the advantages of the most desirable heritage may be lost as the result of an evil environment. Heredity concerns only potential capacity or genius. Environment controls development. A boy born into the world with the capacity to become a giant might be dwarfed and weazened by wrong feeding. The blighting influence of syphilis, of alcohol, tobacco, and other drugs, gluttony, sensuality and other vices, cannot be questioned, and these destructive influences are multiplying. The daily poison dose, through drug habits, has steadily increased from year to year until now the average person living in the United States, including women and children as well as men, swallows daily 368 grains of poison, alcohol, nicotine, caffeine and opium. This alone would be enough to produce profound symptoms of degeneration if no other causes were in operation, but we have departed far from the narrow road. We have long been cultivating disease instead of health.

Other races of animals have degenerated and disappeared from the earth because of changes in their environment which made the conditions of life to which they were subjected inimicable to them. Man, the most complicated of all animal organisms, and hence the most likely to be injured by unfavorable conditions, finds himself at the present time subjected to an environment more dissimilar from that to which he is naturally adapted than that of almost any other race of animals. Naturally an out-of-door dweller, freely exposed to the sunlight and bathed in pure air, man has become a house dweller, secludes himself from the sun and the air, smothers himself with black clothing and spends the greater part of his life as a prisoner within air-tight walls, exposed to a vitiated atmosphere and the disease-producing germs which thrive under such conditions. Man is naturally a low-protein feeder, like the chimpanzee and the orang and other primates. In recent times he has

adopted a high-protein diet, the diet of the dog and the lion, animals whose digestive machinery is adapted to such a dietary, which is hostile and damaging to the human constitution.

Primitive man, living in a tropical climate, required no more clothing than that provided him by Nature. Civilized man has invented clothes, but wears them not simply to protect himself from extremes of temperature or other injury, or to satisfy other bodily needs, but to meet the demands of fashion. Naturally fleet of foot, agile and muscular, supple and enduring, by sedentary habits civilized man has become puny, rheumatic, gouty, short of wind, hobbled by flat feet, and is beginning to lose his toes. Lack of exercise has diminished his chest capacity until he has lost one rib and is losing others and has become an easy prey to consumption, pneumonia and other lung diseases. Man has acquired a hunting instinct, but has no natural capacity for either hunting or killing, so when he goes in quest of a quarry, he must take along a dog to find it and a gun with which to kill it. Through neglect to use his teeth, he has begun to lose them. His third molar is practically gone and other teeth are often lacking, and all are subject to very early decay—one of the most certain evidences of constitutional weakness and race degeneracy.

In his haste to become civilized, man has neglected to provide compensations for the departure from normal conditions of life which civilization necessarily involves. We need not return to savagery to be healthy, but we must see that the air we breathe is as clean as that which the savage breathes, that the food we eat is as wholesome and pure as the water we drink. We must give our pale skins more contact with the sun and air and we must keep the inside of our bodies as clean as the outside. We must cultivate clean blood, instead of blue blood. Society must establish laws and sanctions which will check the operation of heredity in the multiplication of the unfit. Eugenics and euthenics must become dominant matters of study and concern.

We possess knowledge enough of euthenics and eugenics to create a new race within a century if the known principles of healthful living and scientific breeding were put into actual practice.

According to Karl Pearson, "In the tenth generation man has theoretically 1,024 great-grandparents. He is eventually the product of a population of this size and their mean can hardly differ from that of the general population. . . . If we could remove the drag of the mediocre element in ancestry, were it only for a few generations, we should sensibly eliminate regression or create a

stock of exceptional men. This is precisely what is done by the breeder in selecting and isolating a stock until it is established."

Movements of all sorts which seek to promote the physical welfare should be encouraged and unified. Eugenics and euthenics should be magnified before the people until their paramount importance is appreciated and legislatures become willing to appropriate funds as liberally for these essential means of race betterment as they are now doing for the improvement of crops and farm animals through similar means.

Prizes should be offered for the finest families and the best health and endurance records.

Through State Life Insurance, the whole population might be brought under government medical supervision. By periodical examinations the early beginnings of chronic diseases might be detected and thus arrested by timely instruction in regard to necessary changes in habits or occupations and every such case would become an object lesson by means of which relatives and friends should be influenced to adopt preventives in time to avoid the same maladies. The new science of eugenics founded by Galton, supplemented by the now nearly perfected science of euthenics, when they come to be comprehended and put into practical operation, will result in the creation of an aristocracy of health, in the development of a new race of man. Every board of health and official health agency will be actively engaged in the battle against disease and degeneracy, in all its forms, chronic as well as acute. Why should this work be left to individual initiative. Nothing could be more profitable to the state and nothing more prolific of satisfying results to those engaged in the effort than a thorough-going campaign for race betterment through eugenics and sane living, combined with scientific sanitation. The establishment of a national department of health will provide a central bureau by which to unify the work and collate its results and interpret them to the people.

A Eugenics Registry Office is needed to establish a Race of Human Thoroughbreds.

It takes only four generations to make a thoroughbred when the principles of eugenics have a fair chance to operate. Intelligent men and women everywhere throughout the civilized world are becoming aroused to the race significance of these great biologic laws and are anxious to become informed in relation to eugenics and euthenics, and to conform their lives to the principles of physiologic and biologic righteousness.

We have registers for horses, cattle, sheep, pigs, and even cats

and dogs. If a lady wishes to establish the standing of her pet poodle as a thoroughbred she can do so by appealing to an official record and the puny canine may lift its head above its fellows, a born aristocrat and prove its claim; but nowhere on earth, so far as the writer knows, is there to be found a registry for human thoroughbreds.

The hope is entertained by the promoters of this Conference that one of its results may be the establishment of such a Registry. Indeed, it seems that the time has fully come when a Eugenics Registry Office should be established in which may be recorded the names of infants born under eugenic conditions and perhaps also the names of persons who in person and pedigree are able to measure up to eugenic standards.

The United States Government has supplied every farmer in the United States many times over with literature telling how to raise the best crops, how to produce the fattest pigs and the finest horses and cattle. How much more important that not only every farmer, but every family should be instructed in the principles of right living—how to produce strong, sane, healthy, and efficient human beings!

At the present moment degeneracy is rampant in the earth. Every day this upas tree is planting its roots deeper and spreading wider its death-dropping branches, but, though at the present time the prospect may seem dark and the future outlook forbidding, the new science of eugenics and the old but sadly neglected science of eugenics rise like a light-tower in the darkness and cast a flood of light and hope over the coming years. Following this beacon, the outlook is most optimistic. Eugenics and eugenics, applied with liberal intelligence, will save the race from the destruction which race degeneracy threatens. Other races of the animal kingdom are helpless to combat the influences which produce environmental changes inimicable to their existence, hence every one, sooner or later, must succumb to the destructive action of these cosmic forces. The same fate must necessarily await the human race unless man, through his intelligence, finds some way to avert the disaster. He can do this if he will. Unfortunately he has to a large extent neglected to recognize the necessity for preserving, so far as possible, the essential conditions of his primitive life. He has allowed himself to drift. He has formed habits by chance. Instead of laboring to preserve amid the conditions of civilized life the essentials of his primeval environment, he has done the very opposite. He has allowed his fancy and his impulses to lead him into by and forbidden paths and has undertaken to compel his

body to adjust itself to impossible conditions; and the result is, instead of lessening he has intensified the evil effects of environment. The same forces which have destroyed other creatures, other animals and species, and which are preying upon man as a member of the animal kingdom, instead of being mitigated and neutralized by the intelligence of man, have actually been increased and exaggerated. Man has thus forced upon his body conditions which are so far removed from his biologic and physiologic requirements that, at the present time, he is actually accentuating by his daily habits of life the influence of those destructive forces which have wiped out generation after generation of living beings.

But we may reverse the situation by the intelligent application of eugenics and euthenics. By a careful study of our biologic needs and our physiologic requirements we may reverse the process and compel the cosmic forces which are dragging us down, to lift us up, so that **each generation may** be superior to that which preceded it. The greatest opportunity and the greatest duty which lies before civilized man at the present moment is the study and consideration of the great questions which it is the purpose of this Congress to discuss. The intelligence of the world should be set to work to create new agencies and to multiply existing agencies for the betterment of the race. A biologic survey should be made of every civilized community and of savage communities as well for purposes of comparison. The laws of eugenics and euthenics should be taught in every school and preached from every pulpit. Every teacher, every leader of human thought, every publisher, all professions, all serious-minded men and women should join in making known to every human being in every corner of the globe the fact that the human race is dying, and in seeking to discover and apply the remedies necessary for salvation from this dismal fate.

That there will sometime be a new human race, a race far superior to the present, is believed by many scientists.

It is within the power of man so to modify his environment and so to control the evolutionary forces which are working upon him as to eliminate the degenerative, destructive tendencies and to promote, encourage and intensify the forces which work for race betterment, and thus to improve desirable qualities and eliminate defects and undesirable characteristics and in time produce a race of human thoroughbreds which will be as much superior to the average existing man as is the thoroughbred horse to the average horse of the farm.

The coming man will rank far above the man of today in intelligence, in stamina, in endurance, in length of days, size of body,

bigness of brain and in all the characteristics which make up human excellence. He will be, in every way, a bigger man. He will be a real aristocrat. In his veins will course, not blue blood, but the red blood of abounding health and vitality, polluted with no disease or hereditary taint, equipped with alexins and anti-toxins capable of resisting every infectious disease, and teeming with life and vitality.

Just how this new race is to be ushered in, no man is today wise enough to say. The object of this paper is not to offer a formula for bettering the race, but rather to urge the need of race betterment and emphasize the importance of making a practical application of all the knowledge relating to race betterment which we now possess and undertaking such researches and investigations as may develop more light and knowledge.

It is hoped that this first Conference on Race Betterment may prove to be the beginning of a world-wide movement, the result of which will be a great enlargement of our knowledge of how to live for personal and race betterment, and a more general and thoroughgoing application of such knowledge.

THE IMPORTANCE TO THE STATE OF EUGENIC INVESTIGATION

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Perhaps I may remark that we may hope in the future to have a Conference President of the age of one hundred, provided we may find one who has the good sense that Dr. Stephen Smith has had to select parents who have lived to an old age. With the purpose of enabling people to do this, there has been established at Cold Spring Harbor, on Long Island, an institution for the collection of data respecting human inheritable traits. At the suggestion of some people, I have decided to change the title of my address and speak upon the origin and aims and ideals of this Eugenics Record Office.

The beginning was far back in 1904, shortly after the opening of the new era in the study of heredity, which starts with the re-establishment of Mendel's law. On the first of January, 1904, there met a body of persons interested in the breeding of animals and plants at St. Louis and formed an American Breeders' Association. During that meeting, and the meetings that followed, marvelous tales were told of successes achieved by these breeders in working with plants and animals. We saw there what rapid developments were made in the production of new combinations of

features, new and valuable strains of carnations and chrysanthemums. We saw how by the application of heredity we could produce heat-resistant watermelons and other disease-resistant plants. Among the properties of animals, it was shown how races of hogs immune to cholera could be thus produced, and how rapid advance could be made in the improvement of different animals.

The question kept constantly coming to those who attended, "If such great achievements can appear in the application of the laws of heredity to plants and animals, why cannot something be done in the case of man?"

The need for studies of the inheritance of human traits was seen on every hand. On the one hand, states were groaning under an ever-increasing burden of defectives. In the state of Massachusetts, during the past decade, an average of thirty-five per cent of the total budget applicable to state purposes was spent in the care of defectives. In the state of New York, for twelve years, from one-quarter to one-sixth of the total of the state budget has been spent in this care. There has been a steady increase, also, in the total amount expended by the state in the care of these classes; and the pressure for still greater increase cannot be withstood. On the other hand, there was coming home a realization that the high hope that had been entertained for the cure of the feeble-minded by placing them in institutions where they would be trained along manual lines and others, was not to be realized, that the feeble-minded child, one who was born feeble-minded, would remain feeble-minded, despite all that could be done for his intellectual improvement; the realization, also, that insane tendencies are in the stock, that in the ordinary cases of epilepsy, we find a repetition of them in special families and that crime and pauperism have an inheritable basis. The recognition of all these points also helps to bring home the importance of the consideration, at least, of the possibility of improving the human race through the application of the new laws of heredity.

The American Breeders' Association organized a committee on heredity in 1907, and this was later raised to the position of a section of the Association and now forms one of its three principal research committees.

In order that studies in human heredity might be made on a satisfactory scale, it was necessary to get some assistance. Now the matter of heredity is not one that appeals to the ordinary philanthropist. The ordinary philanthropist will respond to the poor man who is in immediate need of assistance or to an institution that provides for the relief of immediate pain and trouble, but the idea

of improving the human race through determining the laws of heredity is such a long-range proposition that it takes a person who is capable of seeing far into the future to appreciate its need.

The matter was laid before Mrs. E. H. Harriman, and in her was found a person with this range of vision. She decided at once that the work should be supported. It was started in October, 1910, at Cold Spring Harbor. At the present time we have there an institution, now housed in a practically fire-proof building, with its records kept in steel cases and every precaution taken to secure permanency. Our first work and up to the present time, perhaps, our major work, has been in cooperation with states, especially through the state institutions.

We needed, first of all, to collect data. The need seemed greatest in the case of the defective classes. The superintendents of state institutions were very desirous of assistance. We were able to give it to them, and they to us.

As a result of these studies during the last three or four years, it has been found that truly the trouble is that the state bows under a needless, heavy burden, which has a hereditary basis. We have found that a large proportion of the feeble-minded, the great majority of them, are such because they belong to defective stock. Similarly the majority of epileptics have been demonstrated—Doctor Weeks has shown it in his studies—to belong to strains of epileptics. The same thing has been shown for the insane by Doctor Rosanoff, at Kings Park Hospital on Long Island, and at similar institutions in New Jersey by Cotton. These results have since been confirmed in different countries of Europe, and we are now in a position to give, for certain classes at least of these defectives, very definite information as to the result of certain matings.

Studies have also been made upon the criminalistic strain, especially upon wayward children, and to the greatest extent upon the wayward girls of whom we have heard so much. We have been appalled by the ignorance possessed by superintendents of these institutions, officers of the state, regarding the real basis of the trouble of the individuals with whom they have to do. This ignorance has led to procedures on the part of these institutions of the most appalling sort. Thus at one institution where we visited, we found that the superintendent maintained that seventy-five per cent of the girls in his institution, after having been released, as they all are, made good. On further inquiry, it appeared that seventy-five per cent of those released from the institution married, and further inquiry brought out that these were the seventy-five per cent who "made good." The twenty-five per cent who did not

marry went into lives of prostitution or of bad conduct in different directions. Now we know from our studies that the highly erotic girl, and this is especially the type that gets into the institutions, will have at least one-half of her children with the same lack of control over their passions that she has. One wonders at the blindness that will permit these girls to go forth and marry, to have children to double perhaps the burden which the state will have to carry in the next generation.

Other studies that we have made have been in quite different fields. Thus we have studied the method of inheritance of skin color in crosses between negroes and whites, a matter of great social importance. We were led to this study from receiving very pathetic letters from men who were trying to marry, but had learned that way back some generations before they had a great-grandparent, perhaps, who was colored, and they feared thus they might have colored children if they married a white person. In order to see if there were a practical basis for this fear, extensive studies were made upon something like two hundred families in Bermuda and the island of Jamaica. We discovered, first of all, the interesting law of heredity of skin color, which shows that it is no exception to the ordinary method of inheritance. We found, namely, that there are four factors for the production of black skin color in the negro, and it is because there are so many factors that the inheritance appears to be simple and is really so complex. We found also in a large number of families we studied not only that the offspring that passed for white, of an octoroon with white or even an octoroon with another, that no such offspring—that passed for white—produced brown children. We could find no well-authenticated case of that sort. We think we are justified, in view of this interesting fact, in the assertion that that result has never followed from the mating of two white persons, even though one or the other had a remote ancestor who was black.

A special study of this subject has interested us very much, a form of chorea or Saint Vitus Dance that occurs in old age, so-called Huntington's chorea. We find that this is inherited, just as brown eye color is inherited, that whenever a parent has it, half the children at least will have it, and any normal descendant of such a parent cannot transmit it to his offspring. The method of inheritance is as definite as brown eye color. There is nothing that can be done to prevent the progress of this dire disease. We recall one incident found in our state which shows the ignorance or blindness of the average person toward the fact of heredity: A girl wanted to marry a young man who belonged to a strain such that, his father having

been affected, it was probable that he also would be affected. He already showed some signs of nervousness. Her parents realized the danger and warned her against such a marriage, but in the blindness of advanced stages of love, she said: "Though John were ill, I would marry him. He is not ill, and if he should fall ill, I should wish to marry him in order to care for him." She did care for him, and also for four of her seven children, all of whom were affected with this terrible disease.

Our studies have also led us to the consideration of degenerate communities. We have found them in almost every county where careful studies of the population living in out-of-the-way places have been made. That it behooves each state to know something about its population is our conclusion, because from such degenerate communities, so far removed from social influences that their existence even is not known to most of the people in the county, certainly in the state—from such localities where the degenerates are bred, go forth a stream of people who constitute certainly a large proportion of the paupers, beggars, the thieves, burglars and prostitutes who flock into our cities.

But we are not interested only in the degenerate part of the population. We seek to awaken an interest in heredity among our best stock, so that in marrying, the old ideals of marriage into good stock may be restored. For this purpose we have issued schedules upon which a person may record his family traits, not only his own, but those of his brothers, sisters, parents, grandparents and other closer relatives. Many a person who has taken the trouble to fill out these schedules has first come to see vividly what an important part heredity has played in the production of the mosaic, which he is, of the traits which are found distributed elsewhere in his family. Over twelve hundred of these records filled out, many of them with the greatest care, have been deposited in our institution. Thousands of others are now distributed in the general population and many of them, no doubt, are in process of being completed. We believe that it would be an excellent thing were students who appear in schools able to present to the teacher such a record of inherited capacities or performances of close relatives in order that the teacher might have, when the pupil appears, something more than a blank face and a suit of clothes, some idea of the probable potentialities in that child, that his teachings might be directed in such a way as to develop them and that he should not have to wait for a year in order to find out what the capacities of the pupil are.

In order to assist young people who believe in the importance of

inherited traits in the selection of mates, we have issued also another schedule, and have distributed one hundred or more of them. This is called an index to the germ-plasm. It is intended as a preliminary record for young men and young women who are thinking of getting married. We doubted, perhaps, whether there would be any call for this schedule, but there has been a considerable call. A fair number of people have returned these schedules filled out for the two with inquiries asking whether any judgment could be rendered of the desirability or undesirability of the proposed marriage. We never give very definite advice, but we are in a position to set forth the facts in such a graphic form that if they are obvious they can be made so to the people themselves. We know of two cases at least in which, as the result of our findings, persons themselves concluded that the marriage would not be desirable and so informed us. In the majority of cases, however, there is nothing on the face of the returns which would enable one to decide in any respect against the proposed marriage.

We have also undertaken the study of America's great families, to see if we could find in what way the combinations were made which resulted in those who have done the great work of this country. We have been surprised in these families to find how persons that we did not know to be related have acquired their genius from the same source—thus for example: William Evarts and Samuel F. Hoar, one of our great Senators, the present Governor of Connecticut, and his father, Simeon E. Baldwin, and William T. Sherman and John Sherman were all cousins and all came from the same grand stock. So I might speak of the Lowell family, the Lee soldiers, the Hutchinson family of singers, and the Wilkinsons, as well as of manufacturers and inventors. Thus we find, after all, a rather limited number of strains which have supplied in the past, and—insofar as they are fecund—will, in the future, still supply to this country her great stock upon which she must depend for service in emergencies.

One word more. In this very matter of our great stock must we depend upon the persistence of them. How we regret to see the testimony that the best of that grand old New England stock is dying out through failure to reproduce. A century and a quarter ago there was graduated from Harvard College John Lowell, who became a judge. At the time he was graduated he declared that he would not marry, as many another Harvard graduate has declared, because it would interfere with his professional success. As a matter of fact, he did marry. He married three times. One of his sons, John Lowell, founded the Academy of Arts and Sciences, one of the

leading academies in the country, and was also prominent in the establishment of the Boston Atheneum. From him also descended Lawrence Lowell, now President of Harvard University, and Percival Lowell, the astronomer; also the Lowell who founded Lowell, Massachusetts, and the cotton industry of Massachusetts, and his son, who founded the Lowell Institute of Boston, which has for a generation or more provided lecturers for the people of that town; also from him descended Charles Lowell, a well-beloved martyr to his country in the Civil War, and his brother, James Russell Lowell, whom we all know as a poet, professor and ambassador. What a terrible loss to this country if John Lowell had carried out his plan of never marrying.

So we wish to bring home to the American people the importance of heredity, but above all, the importance of marrying, marrying well and having healthy, effective children—and plenty of them.

RELATION OF EUGENICS AND EUTHENICS TO RACE BETTERMENT

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The privilege of claiming your attention for a few minutes is doubtless given to me as a biologist, and I shall speak chiefly of the biological aspects of the subject, leaving to others to discuss its sociological aspects.

There are three phases of the problem of human betterment—culture, eugenics, and evolution—and these need to be carefully distinguished. They are commonly confused in the minds of those who have given little thought to the biological aspects of the problem, and such confusion is likely to lead to misdirected effort. The biologist who makes no claim to be a sociologist may make a few suggestions to which the student of social problems may well give heed.

Human betterment may be secured thru work for the relief of distress, thru education of the individual, also by inspiring him to action upon a higher moral plane. By the cumulative effects of such culture, generation after generation, great social advance may be made. It is by this method that our great advance in civilization has been secured. This is, of course, work of the greatest value, promoting profoundly human happiness and social progress. It needs no defense. It makes a strong, natural appeal to every normal man. If effort for the comfort of domestic animals is rec-

ognized by us all as of worth, how much more must we approve all intelligent endeavor to advance human welfare. In nothing that I shall say would I wish to be interpreted as lacking in appreciation of and enthusiasm for such individual and social culture. Contributing to the happiness of one's family and neighbors, promotion of normal living among them, is a life motive worthy of any man, and when we realize that the betterment thus effected need not cease with the present generation, but may improve the social conditions under which all following generations shall live, this ideal becomes glorified.

But in all the centuries of known human history, while wonderful advance in individual conduct and social relations has been secured thru the cumulative effect of the cultural effort that has been made, there has been little, if any, advancement in innate human character. There has been thru all the centuries little, if any, improved inheritance for the race as a result of the many generations of culture. I have before written: "We have no reason to believe that the progress in culture, secured by education in one generation, will directly improve the innate character of the children of the next generation. Were the effects of education inherited, human evolution should be rapid, but it has been slow; how slow perhaps few of us realize. We speak with pride of the advance of human civilization, of our progress in the arts and in useful knowledge, of the improvement in morals and the growth of altruism, and this all makes us blind to the fact that since the dawn of history there has been no clearly recognizable evolution of mankind. We reach larger results in the problem of life than did our progenitors five thousand years ago, but we are able to do so because we build upon their experience and that of all the generations between.

"Have we much greater innate powers? Are we at birth endowed with characters having much higher possibilities and much higher tendencies, physically, intellectually, and morally? Have we today men of much greater physical prowess than the ancient conquerors of the world, than the builders who constructed the monuments of Egypt? Have we more adventurous spirits or more successful explorers than the Phoenicians, who, without compass, sailed the ancient seas, reaching the whole Atlantic coast of Europe and the British Isles, also passing southward even around the tip of Africa? Are there among us today men of keener inventive genius than the one who first used fire, or the inventor of the lever or of the wheel, or than the man who first made bronze or smelted ore? Our modern engines have been invented, screw by screw, by successive builders, each building upon the others' work. Have we

today men of much larger legal and social understanding than the ancient law-givers who forged the legal systems which still are the basis of our most enlightened governments? Have we poets whose genius greatly transcends that of Homer, or of the authors of the books of Job and Ruth? In esthetic appreciation, and in the power of artistic expression in sculpture and architecture, we are degenerate compared with the Greeks.

"Even in innate moral character have we greatly advanced? We are *learning the lesson* of altruism, but *are we born* with a sturdier moral sense? If we could take a hundred thousand infants from London or Chicago and, turning back the wheel of time, place them in the homes of ancient Babylon, would they reach a higher standard of righteousness or of altruism than their neighbors? How little evidence we have of real evolution of mankind since the first emergence of the race from the darkness of prehistoric times!"*

But tho we accept the statement that innate human character cannot be improved by the direct inheritance of the effects of culture, there still remains to us the eugenic method of procedure, which, if it can wisely be applied, may result in improvement in the stirp, in the real essential innate character. This is an ideal that fires the imagination—the breeding of a race that shall be strong and wholesome, physically, intellectually and morally; men who shall be decent because they are inherently decent, not because by training they restrain their evil tendencies; a race from whose fundamental character the evil tendencies are actually removed. This is a social ideal higher even than was apparently present to the mind of Jesus.

Is this ideal—of a race of inherently wholesome men—utterly chimerical, or is there a way of approaching it? No positive, indubitable answer can now be given to this question, for scientific study of heredity has not yet given us extensive knowledge of the biological, especially the psychological, phenomena of inheritance.

This second part of the problem of human betterment, real race betterment, is a problem of good breeding, not one of culture. This problem of good breeding has two somewhat distinct aspects that are seldom clearly distinguished. There is first the problem of bringing the race average nearer to its present best by eliminating the less desirable and breeding from the best. This is the problem of eugenics as ordinarily considered. But there is the added

* Metcalf. "An Outline of the Theory of Organic Evolution." 3d Edition.

problem of securing further true evolution of the race, raising the present best to a better.

We see thus the three aspects of the problem of human betterment: First, human culture, whose effects are cumulative thru training from generation to generation, tho not inherited; second, race betterment thru breeding from the best and eliminating the more undesirable, thus raising the general average toward the best type of manhood as we know it; third, the problem of securing true evolution beyond the point of the best yet experienced among men.

The problem of human culture is social, not biological. The problem of eugenics and evolution are primarily biological, but can be approached only if social conditions allow the application of biological method. It is necessary to emphasize cultural effort, for it is essential that the good breeding of the future human race be in the midst of a controlling atmosphere of highest altruistic idealism. Let us note for a moment some elements of the biological problem.

I cannot stop to describe the microscopical structure of germ cells and their nuclei; the fact that the nuclei contain chromosomes in definite number which are the instigators of physiological action and the controllers in heredity; that the chromosomes in each nucleus fall into diverse categories physiologically, there being two chromosomes of each physiological type, one derived from the male parent and one from the female parent; that the different regions of a single chromosome may have different physiological values, and that in the division of nuclei the chromosomes split in such a manner that each daughter cell receives half of each specialized bit of each chromosome; that before fertilization one chromosome of each physiological pair is thrown away, and that in fertilization the full double character of the nucleus is restored. Of course, without knowledge of these structures in the germ cells and of their behavior in reproduction, one is not ready to begin to think of problems of inheritance. Familiarity with these fundamental facts not only helps one to escape many errors into which so many of the uninitiated fall, as, for example, the belief in the inheritance of the effects of culture, that is of acquired characters, but it is essential as a guide to every step of one's thinking in this field. But I must assume that these are familiar matters to you all.

Recent studies in heredity have demonstrated that there is a sharp distinction between qualities that are heritable and others that are not heritable. We name the former stable characters, the latter unstable, or fluctuating characters. New qualities are arising from generation to generation thru variation. These variations

may similarly be classed as stable variations, or mutations, and fluctuating, or unstable, variations. No result can be reached by breeding with reference to unstable variations or qualities, for they are not inherited. Qualities belonging to the unstable type cannot be fixed by breeding. They are, therefore, without significance in the problems of eugenics and evolution. It is impossible, however, to discern whether an observed quality is of the stable or unstable type until one follows its behavior in inheritance.

Another fact of the greatest importance to remember is that there is probably no such thing as inheritance of vague general resemblances, but that inheritance is apparently always particular, definite so-called unit qualities being the things inherited. The character of any individual is built up of a complex multitude of such unit qualities, each heritable separately, and the character of an individual depends upon the combination and interaction of the unit qualities that have been passed down to him from his parents, grandparents and other progenitors.

In the light of these facts, what is the essential problem, first in eugenics, then in evolution? The eugenics problem is to determine accurately the desirable unit qualities, which must be of the stable type, and to combine and fix them in the race by breeding, eliminating at the same time the undesirable unit qualities. It is the problem of finding the exact units of inheritance, and of so fixing and combining, by breeding, these valuable units in the individuals of the coming generations that we shall have a more wholesome innate character in mankind. The evolution problem is to find among the multitude of diverse human traits, *new* desirable unit qualities of the stable type, often only in their beginnings, and to perpetuate these by breeding.

The Galton-Pearson school of English students is willing to waive accurate analysis of inheritance units, but the real problem will not be solved until we know whether the human qualities with which we wish to deal, the intellectual and moral as well as the physical, do follow the Mendelian principles in inheritance, and until we have analyzed the Mendelian qualities to their units. We have a notable example of failure to secure permanent valuable results in attempting to breed from individuals whose valued character had not been analyzed to its unit qualities. At the Agricultural Experiment station in Orono, Me., many years of effort were given to securing a strain of fowl which would lay an unusually large number of eggs. Mere breeding from hens which laid many eggs was not found to be enough. The quality of high fecundity could not be fixed in the strain. Selection had to be continued

in each generation or reversion to the general average would occur. It was only after Raymond Pearl's masterful experimental analysis of fecundity in fowls into its three physiological unit characters, and his combining of the three units into one individual, that it was possible to secure a strain in which high fecundity was a fixed character. In breeding humankind, the manipulation of unanalyzed qualities might prove as futile as the earlier experiments at the University of Maine. On the other hand, Burbank, in his breeding experiments, has reached some permanent results, tho he has never scientifically analyzed into their units the desirable qualities he has succeeded in combining and fixing. But in each case he has dealt experimentally with many thousands of individuals and has reached success in but a small proportion of his attempts. His methods offer little chance of success in human breeding.

Even one wholly unfamiliar with the subject can see at once that the mere outlining of the biological problems of eugenics and evolution is wholly impossible in a limited paper such as this. Yet this very fact points the chief moral I wish to urge.

We are at the very beginning of our knowledge of heredity. Few of the myriad of unit qualities in mankind, or other animals, have been identified and defined. We know some, perhaps all, the units of hair color and eye color, we know some of the units of shape of hair, and a few other such comparatively simple qualities. But, as yet, we are merely entering the pass that opens onto the broad fields of knowledge of inheritance. We have analyzed a mere handful of the simpler physical unit qualities. We know nothing, as yet, of psychic unit qualities. We cannot even be positive that the inheritance of psychic qualities is by definite units which follow the so-called Mendelian laws of inheritance. That intellectual qualities, and moral stamina, are heritable seems indicated, but the parallelism between their mode of inheritance and that of such a thing as hair color, however probable, is as yet not definitely demonstrated. It is possible that most psychic qualities are too complex ever to be successfully and completely resolved into their heritable units.

How much progress, then, may we hope for? We don't know, and we cannot know, until we have had decades, perhaps centuries, of further study of these most intricate problems. By the biologist, trained thru the study of evolution to think in geologic epochs rather than years, the dawn of a new day for mankind is foreseen. But to the sociologist, whose chief business is to apply our knowledge to present conditions, the whole subject is of much more limited interest. Aside from a few very limited aspects of negative

practice of eugenics, the whole subject is, as yet, of little social significance. The prolonged labor of hundreds of special students is needed before this matter, which already is of the keenest biological interest, can become of the greatest social moment. We must cultivate a little of the patience of God. It is perhaps unfortunate that so much attention from laymen is focused upon this great field of research. The man of science needs to work quietly, patiently, doggedly, without too much thought of so-called practical value to follow from his studies. He is painting the thing as he sees it for the god of things as they are, and he is fortunate, in a way, if he can find a separate star where he may work undisturbed by the too eager interest of the crowd who clamor to know the significance of each brush-stroke.

Shall we then attempt no practical application in eugenics of the little knowledge of inheritance which we have already attained? For myself, I am in doubt. A number of states are making laws for the sterilization of certain undesirable classes, and are making the enforcement of these laws subject to the "expert" advice of a board composed generally of physicians. As a matter of fact there are very few states in this Union which have among their citizens men capable of exercising expert judgment in these matters, and these men are not physicians, but biologists engaged in studies of heredity. Furthermore, in but few individual instances are there genealogical inheritance records which can serve as the basis of such expert opinion.

One thing, however, of the greatest practical value we can do. We can promote in every possible way the gathering and safe filing of human inheritance records, which in the future will serve as the foundation of such practice of eugenics as shall prove wise and practical. I can in imagination see the day when the compilation of inheritance data for each citizen will be compulsory, and when the files of these records will be the most valued of all state documents; when no marriage license will be issued except after the most careful scrutiny of the inheritance records of each contracting party by trained students of inheritance, and when the state will debar from marriage those whose children will be a burden to the state. The bearing of children is, of course, not an individual right, but a social privilege, and in time it must come to be so recognized.

With eugenics as our goal, with a hope of ultimately greatly improving the fundamental character of the race, let us cultivate patience, allowing time for the sure grasp of the phenomena and relations in heredity, before attempting by law any but the most

limited applications of its principles to human marriage. Let us promote the view that social welfare, not individual comfort, is the ultimate criterion in marriage, and meanwhile let us actively promote the gathering and preserving of inheritance records for all persons, thus providing data for intelligent practice of eugenics in coming generations. We can at once insist upon the gathering of such data for all persons in our state penal institutions, almshouses, hospitals, asylums, etc. I am told that the city of Rochester is gathering similar data as to its public school children. We can urge the same practice in privately controlled institutions of similar purpose. We can urge right-minded individuals everywhere to supply such data as to themselves and their families. But this will still fall far short of our need, for those who are contributing the most children to the coming generation will be the last voluntarily to supply the desired data. Nothing short of a state system of compulsory gathering of data for all individuals can serve as an adequate basis for such negative eugenics as it may in time be wise to enforce by law. But such compulsory gathering of data cannot now be had. There must first be much education of general sentiment, and there must be trained students to take the records.

That observant naturalist, Oliver Herford, speaking in the supposed person of a crab, recently said: "Be sure you are right, then go sideways for all you are worth." I am asking for more time for the man of science to do his work before we insist upon applying too widely his results, lest in such application of uncertain scientific data we find ourselves making crab-like progress.

But I cannot close with such a negative word. There are positive aspects of the matter which deserve the chief emphasis. Let me again urge that among the great needs must be recognized scientific study of the principles of inheritance, and for this liberal financial support should be had; and the cultivation of the realization that in marriage it is ignoble to seek the happiness only of the man and wife and to forget the character of the children and thru them the welfare of society. Our poets and prophets, as well as our men of science, must open men's eyes to the beauty and worth of the social ideal in the family. Tho we have advanced so short a way in the discovery of the phenomena and principles of inheritance, and tho we have accurate inheritance tables for so few individuals, we can still clearly discern that marriage of certain individuals is unsocial. To what extent the state can now intervene to prevent such marriage is a question which needs careful detailed study, and is not an appropriate question for discussion in this brief general paper. But aside from this question of the limits of state action,

we must emphasize the vital need of cultivation of the social point of view in this most vital of social institutions, the family, and the need now to gather the data upon which eugenics may in the future be based.

THE PSYCHOLOGICAL LIMIT OF EUGENICS

HERBERT ADOLPHUS MILLER, PH.D., Professor of Sociology, Olivet College, Olivet, Michigan.

There has been a good deal of difference in opinion at this Conference, but nobody has yet called anybody else names. This is a peculiar form of sport, however, in which I shall indulge. I was asked to have a sociological paper for this Race Betterment Conference, and though I knew nothing about it, I presumed there would be something of eugenics in it, so I started with criticism of the celebrated eugenicist who preceded me. When I found that he came on the program before me, it embarrassed me, but rather stimulated me, so I will leave out nothing.

The rapidity with which the eugenic idea has spread is little short of wonderful, and its value cannot be overestimated. However, this value has been not only, and not chiefly, for what it has claimed for heredity, but for the attention it has turned toward sanitation and hygiene.

This is a time of great social unrest, and any panacea which offers to solve our problems is eagerly embraced. Eugenics has volunteered for the service, which accounts in part for its rapid spread.

A second reason is its simplicity. Only one principle is required to dispose of all problems. As Dr. C. A. L. Reed says: "So vigorous, aggressive and all-pervading have become the demands upon the 'science of being well born,' that many have come wrongly to think that there is no problem other than heredity in the great problem of race culture."*

It is the object of this paper to show that even if a perfect eugenic system were in vogue, practically every social problem which we are now trying to solve would still remain, and I wish also to urge that in spite of what good it may have done, it has also done a very great harm in diverting attention from the really fundamental problems which underlie the question of race improvement.

The cocksureness of the eugenicist is illustrated by the following

* *Lancet-Clinic*, Jan. 3, 1914.

quotation from Alexander Graham Bell: "The individuals have the power to improve the race, but not the knowledge what to do. We students of genetics possess the knowledge but not the power; and the great hope lies in the dissemination of our knowledge among the people at large."¹ In similar strain but more comprehensive and more confident we find Davenport saying in a magazine article: "To the eugenicist, heredity stands as the one great hope of the human race, its savior from imbecility, poverty, disease, immorality."² Let me quote further from Davenport's book, "Heredity in Relation to Eugenics": "Man is an organism—an animal: and the laws of improvement of corn and of race horses hold true of him also. Unless people accept this simple truth and let it influence marriage selection, human progress will cease."³ Again: "Perhaps the best definition of feeble-minded would be: 'deficient in some socially important trait,' and then the class would include also the sexually immoral, the criminalistic, those who cannot control their use of narcotics, those who habitually tell lies by preference, and those who run away from home and school."⁴ Again: "A settlement worker in New York City inquired into the meaning of a particularly unruly and criminalistic section of his territory and found that the offenders came from one village in Calabria known as the 'home of brigands.'"⁵ The implication here is that the germ-plasm in Calabria is bad. Finally comparing the influence of the criminals who were sent to Virginia from England, he says: "Soon better blood crowded into Virginia to redeem the colony. Upon the execution of Charles I. a host of royalist refugees sought an asylum here and the immigration of this class continued even after the Restoration. By this means was enriched a germ-plasm which easily developed such traits as good manners, high culture, and the ability to lead in all social affairs—traits combined in a remarkable degree in the first families of Virginia."⁶

Please remember that I am not denying a great deal of good in this movement, but too little attention has been given to either psychology or sociology, and unjustifiable conclusions have been drawn. The vogue of these conclusions is likely to delay progress by putting our thinking back twenty years, since which time the sociologists have been patiently building up the data of social psychology.

After the theory of evolution had been pretty thoroughly understood, the Spencerian idea of its universal application was eagerly

¹ *Journal of Heredity*, January, 1914, p. 1.
² *Mon.*

³ P. 1.

⁴ P. 9.

⁵ C. B. Davenport, *Pop. Sci.*
⁶ P. 183.

⁶ P. 207.

appropriated. It was simple and comprehensive. If we found a condition of social inferiority, the answer was, "a lower stage of evolution." A race was less enlightened and thus proved its biological inferiority. It was a fine case of reasoning *post hoc, ergo propter hoc*. In my opinion the reasoning in the quotations I have just given is of the same sort. "A band of brigands, a bad heredity." No one would be more glad than the sociologist to find a simple explanation of social phenomena, but there is none, and to the minds of most sociologists. I venture to say that instead of being the one hope, eugenics barely touches the problem of fundamental race improvement, although it has a definite place.

In 1893, Huxley, in his lecture on Evolution and Ethics, sounded the warning against making too close connections between the physical and the social values. He said: "There is a fallacy . . . in the notion that because, on the whole, plants and animals have advanced in perfection of organization by means of the struggle for existence, and the consequent survival of the fittest, therefore men in society, men as ethical beings, must look to the same process to help them towards perfection. . . . Social progress means a checking of the cosmic process at every step and the substitution for it of another, which may be called the ethical process; the end of which is not the survival of those who may happen to be the fittest (in the respect of the whole of the conditions which obtain), but of those who are ethically best."*

The eugenicist would say that he is in full agreement with that statement, but he seems to think that the inheritance of these ethical qualities follows the same laws as the inheritance of biological qualities. Man may be bred for qualities just as the race horse is bred, but he may not then fit social conditions any better than a race horse fits plowing. It is of interest and biological value to discover the verification of Mendel's law in the inheritance of eye color and stature, but it has no more social significance than whether Mendel's dwarf or giant peas tasted the better. Much of the other data collected belongs in the same class. They belong to the world of description, while good and bad belong to the world of appreciation and value and are subject to entirely different laws. This is the idea which no one seemed to understand, offered by Dr. Richard C. Cabot last fall at the meeting of the Society of Sanitary and Moral Prophylaxis, when he insisted that there is no necessary relation between "the rules of sanitation and the commands of morality."†

* D. Appleton and Company, pp. 80, 81.

† See *The Survey*, Oct. 25, 1913.

For purposes of argument I am willing to grant that imbecility and some diseases are sufficiently pathological to justify some eugenic measures, though some brief could be made for even the feeble-minded, but every other one of Doctor Davenport's catalogue I will not grant. Consider some of them: "poverty, sexually immoral, criminalistic, those who cannot control the use of narcotics, liars, and those who run away from home and school, good manners, high culture." A few of these may be related to imbeciles, but so far as they constitute social problems, only a very small per cent of them are abnormals, and yet they represent conditions that seriously handicap race improvement.

Please keep this list in mind while we turn to another consideration. There are two technical terms in sociology which are gaining increased significance. They are Social Control and Mores. The latter is one of the methods of the former. Mores was the word used by the late Professor Sumner, of Yale, to indicate the mental and moral environment into which a child is born and which he accepts as ultimate intellectual and moral authority. The widest variety of racial and social expressions must be explained by means of this post-natal psychological inheritance. Professor Ames, of Chicago, indicates something of the process of its acquirement: "Every human being, if he is to live at all, is, from infancy, surrounded and cared for by persons. These persons fit into and help constitute a social group. The child is nourished, sheltered, guided, and disciplined by this human environment. All objects and influences are mediated by the persons near him. His very sensations are determined and modified by them."* The old-time evolutionist and the modern eugenicist alike make little of social control in their effort to make clear the biological control of social processes.

Now we will return briefly to the list of characteristics.

Poverty is a serious problem, but in popular terms we must change the "system," and then only a small percentage will be in poverty for biologically pathological reasons. Syndicalism and other problems of class consciousness are psychological facts.

Take sexual immorality: according to their own confessions, we would need to begin with the elimination of the greatest moral teacher of the early church, St. Augustine, and the greatest stimulator of modern social ideals, Count Tolstoy. The sex mores of Russia today are very different from those of America, and from those of Tolstoy's youth, and from what they will be a generation hence—all without the slightest help from eugenics, solely by the psychic force of social control.

* Psychological Bulletin, VIII., p. 407.

To be sure, a part of the prostitutes are feeble-minded, but even they are prostitutes largely as a result of the mores of their group and the commercial demand for their services.

As to the criminalistic, Lombroso with great pains made an anthropological description of the criminalistic type, but scarcely a criminologist in Europe or America today accepts his conclusions, and the modern science of penology is based on the system of social control.

The same is true of the use of narcotics. With the exception of the few diseased who need special care, drunkenness is the product of group mores. The most drunken people in the world are undoubtedly the husky Russian peasants and factory workers.

When it comes to lying by preference, I fear that none of us would escape, though most of us have painfully learned another way, but our yellow newspaper reporters still remain.

As for running away from home and school, we might say that every normal boy has the tendency, and there are excessive cases, like that of Mr. S. S. McClure, who tells us in his autobiography that he barely escaped being a tramp, in spite of which fact he has done some things for race improvement.

We need no germ-plasm to explain the difference between "the first families of Virginia" and the poor white trash. That is exactly the sort of thing that mores explain.

But there are much more fundamental obstacles to race progress than these, and I can see no way in which eugenics can help them. Such forces as social classes, race prejudice, industrial strife, the social and economic position of women, are psychological problems of fundamental importance.

Social classes are not born; they are made. In this connection Lester F. Ward, the leading American sociologist, said: "A certain kind of inferiority of the lower classes to the upper is admitted. There is a physical inferiority and there is inferiority in intelligence. This last is not the same as intellectual inferiority. Their physical inferiority is due entirely to the conditions of existence. As a subject race, as slaves, as overworked laborers or artisans, as an indigent and underfed class, their physical development has been arrested and their bodies stunted. . . . Their unequal intelligence has nothing to do with their capacity for intelligence. Intelligence consists in that capacity, together with the supply of information for it to expend itself upon. We see, therefore, that both kinds of inferiority of the lower classes are extraneous and artificial, not inherent and natural." * And again in this same connection,

* Publications of the American Sociological Society, pp. 7, 8.

showing the intimate relation of classes to improvement, he says that what we need is not more ability, but more opportunity, and he estimates that if the opportunity could be made for existing ability by the abolition of social classes, the increase in the efficiency of mankind would be at least a hundredfold.

It is hardly conceivable that the breeding of the race-horse type of man will accomplish such a multiplication.

Race prejudice belongs in the same category as social classes. The existence of a race is primarily caused by accidental signs which serve for identification, plus the prevailing attitude towards the people bearing the signs. As Professor Ross says: " 'Race' is the cheap explanation tyros offer for any collective trait that they are too stupid or too lazy to trace to its origin in the physical environment, the social environment, or historical conditions."† In the discussion today I should like to substitute "heredity" for "race" and let the quotation read: " 'Heredity' is the cheap explanation tyros offer for any collective trait that they are too stupid or too lazy to trace to its origin in the physical environment, the social environment, or historical conditions."

When in a Battle Creek restaurant I saw the sign, "Colored Patronage not Desired," my sympathy for the Negro enabled me to feel something as he feels, and I can assure you that the depressing force of a public opinion that approves of such a position is more influential on the race expression than a very large variation in the germ-plasm. W. E. B. DuBois has described this from the inside in his "Souls of Black Folk," where he says: "They must perpetually discuss the Negro problem, must live, move, have their being in it, and interpret all else in its light or darkness. From the double life that every American Negro must live as a Negro and as an American, as swept on by the current of the twentieth century, while struggling in the eddies of the fifteenth—from this must arise a powerful self-consciousness and a moral hesitancy which is almost fatal to self-confidence. . . . Today the young Negro of the South who would succeed cannot be frank and outspoken, but rather he is daily tempted to be silent and wary, politic and sly. . . . His real thoughts, his real aspirations, must be guarded in whispers; he must not criticize, he must not complain. Patience and adroitness must, in these growing black youth, replace impulse, manliness and courage. . . . At the same time, through books and periodicals, discussions and lectures, he is intellectually awakened. In the conflict, some sink, some rise."‡

† "Social Psychology," p. 3.

‡ "Souls of Black Folks," p. 203. McClurg, 1903.

When we remember that more than ten per cent of the population of the United States belong to this class, we can feel that human progress cannot proceed without limit until we have modified our race mores. The sad thing about it is the popular view that the race question is to be explained on biological grounds, and that any race except that to which we have been born is on a lower stage of evolution. We condemn them without trial. Wherever there is white contact with Indians, the whole attitude is permeated with the idea that there is no good Indian but a dead one, and their efforts to change their conditions always come face to face with this prejudice.

Much of our immigrant problem is of the same sort. We condemn them *in toto*, as the brigands of Calabria were condemned in the quotation given. Lord Byron expressed the force of other men's opinion when he said: "I made men think I was what I was not, and I became what they thought me." We cannot escape the great and unjustified discouragement that will come to those we suspect do not belong to the race-horse type. The door of hope is closed to them, while the race-horses cannot fail to get a self-satisfied snobbishness that will make the discouraged plow horse stop in the middle of the furrow. In the same way, registered human pedigrees will inhibit the common stock from making its contribution.

The eugenists have a good deal to say about immigrants. Among the Polish immigrants in America we have a great disproportion of criminals. In the Cook County jail in Chicago they are altogether out of proportion to any other nationality, and the same thing is true in the Detroit House of Correction. The Bohemians who belong to the same race stock and live in adjoining territory in Europe, have very few criminals, and in Austria there are fourteen cases of litigation among Poles to one among Bohemians. The Polish immigrants are 31.6 per cent illiterate, and the Bohemians, 3 per cent. The Poles are probably the most devoted to the church and the Bohemians the most rabid freethinkers of all our immigrants. The social problems arising from these facts have nothing whatever to do with biological inheritance.

Now let us consider the classic example of bad heredity, the Jukes family. Almost everything that is said about the Negro can also be said about them. They lived in New York in the nineteenth century, but they were not a part of it. They were socially ostracized, and built up the mores among themselves that had no part in the current civilization. It is barely possible that they averaged mentally inferior to their more socialized neighbors, but the sociolo-

gist does not need the inheritance of base characteristics to explain their criminality, prostitution and poverty.

If Eugenics succeeds in establishing in the popular mind the tremendous social value of heredity that it is trying to establish, it will overthrow a mass of valuable work of the last decade which has been pointing the way to a fundamental solution of many of our social problems. What if certain people do stand higher on the Binet tests than others, it is yet to be proved that that indicates elemental social value. Psycho-physical parallelism may prevail, but that does not necessarily include psycho-physico-social parallelism.

The position of women has been created in much the same way as races and classes. Alfred Russell Wallace in his last book, "Social Environment and Moral Progress," puts the cart in this eugenic matter where it belongs. He says that when social justice shall have been established and women are free to choose their mates without the artificial conditions that now prevail, then natural selection will take care of itself. I myself am convinced that as a move for race improvement, the equal suffrage of women, with the eventual consequent assumption of intellectual and moral responsibility and economic independence, would be infinitely more valuable than all the eugenic laboratories in the world.

We should use all the forces of science in dealing with pathological conditions, but an attempt at artificial selection of mental and moral characteristics is aiming in the wrong direction.

Discussion.

Relative Effects of Heredity and Environment

DR. CHARLES B. DAVENPORT.

One rejoices to see the progress which the sociologist is making. I think three or four years ago he would not have admitted the possibility of the origin of feeble-mindedness from any hereditary defects, but now that is admitted. However, there are some other things still unproved about which we have dealt. In regard to the mores, one feels like asking, first of all, What determines the mores? The relative influence of mores and heredity is an important matter, and we do seek to get light upon it. In my own study I have tried to get some criterion by which we could differentiate the relative effects of hereditary and of environmental conditions, including the mores.

I have been interested to see how frequently, in studying these families in which these prostitutes arose, one gets this condition: One sister a prostitute; another sister, born within two years, reared under the same bad conditions, becoming secretary of an educa-

tional institution in Boston. There are two cases of that sort in the city of Boston. Such a condition is found very commonly. Why is it that one sister goes wrong and the other has all the inhibitions of a normal person, though brought up under exactly the same conditions, by the same parents?

We have another test for this. That is, the result of the marriage of one man with two wives in succession. This is illustrated in the Kallikak family. I have been very much interested to compare the sets of children that arose from these two marriages. In both circumstances the environmental conditions are very apt to be the same, perhaps more so when the husband is common and the wives are different, and one sees that just as the one variable factor, the other consort, varies, so does the fraternity vary.

We have been also interested to see the consequences of removing a child from bad conditions under which he is reared in his home at a very early age, two years, three years or even earlier, to a good home or to an institution. We find, in the majority of cases, that the child goes through fundamentally much the same course of development and shows eventually the same traits as his brothers and sisters who remain behind.

Finally, we have been interested to see the consequences of the removal of persons from a locality like that in which the Jukes or the Nam family was raised to another part of the country, to the Middle West. We found that certain members of the Nam family in New York State removed to Minnesota forty years ago as pioneers, farmers. We wrote to a field worker in Minnesota and inquired, "Do you know of any people of this name in the state?" The answer came back from the field worker, "Yes, this family is well known to all the social workers in this state. It is one of the great problems of our state."

THE IMPORTANCE OF HYGIENE FOR EUGENICS

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There are two factors which cooperate to produce vitality; namely, heredity and hygiene; and there are two corresponding methods of improving vitality; namely, by utilizing the science of eugenics on the one hand, and by utilizing the science of hygiene on the other. The question arises: Are these two methods in conflict with each other? It is charged that hygiene prolongs the lives of unfit and defective classes. It is reported that in Indiana

institutional care of the insane has prolonged the average insane lifetime by some eight years. Referring to the insane, Dr. Charles Dana says:

“For twenty-five years the explanation of this increase in statistics of insanity has been that more cases were observed and more victims kept in institutions than formerly; and this is still the explanation. It is my opinion, however, that the increase is a real one, and it is one to be expected not only from the strenuousness of modern life and increase of city population, but also, because more feeble children are nursed to maturity and more invalid adolescents are kept alive to propagate weakly constitutions or to fall victims themselves to alienation: the period of life susceptible to insanity is longer.”

It is true that we prolong the lives of the insane and defective classes, and that they thus make a greater burden on society. We should see to it that certain of these classes are not permitted to propagate their kind.

It is further claimed that infant mortality is but the operation of natural selection and would not be interfered with if we are to keep up the vital power of the race. Preventive medicine has certainly prolonged the lives of infants or, at any rate, of children in general. But has this weakened the race? It is pointed out that the mortality later in life has not decreased, and that in some cases it has even tended to increase. But this fact can be explained in either of two ways. One is on the hypothesis of the extension of the lives of weak infants. The other is on the hypothesis of the comparative neglect of hygiene among adults. It is surprising that this latter alternative has not been given due consideration.

Every detail of infant life has latterly been made the subject of special study, and every mother of common intelligence has tried to learn to apply the results of that study. The times of the baby's meals, the quantity of its feeding, the modification and sterilization of cow's milk, the hours of sleep, the ventilation of sleeping rooms, and other innumerable details are now attended to with scrupulous care. The change in these respects, even within the memory of most persons now living, is striking. The children have reaped the reward. But no corresponding change has taken place in the habits of the adult population. Many families buy one grade of milk for the babies and another cheaper grade for the rest of the family. This they regard as “economy.” Parents require their children to keep regular and suitable hours for sleep, but “owl it” themselves. They will keep their children out of doors, and

send them into the country, but subject themselves to the dust, smoke and close air of the workroom and places of business. They will not allow their children to use alcohol or tobacco, or even tea or coffee, much less opium, chloral, or other habit-forming drugs, but they take these themselves as a matter of course. They insist on playgrounds for children, but their own amusements are sought in the unhygienic theatre, or maybe in the saloon or immoral resort. The child is protected on all sides, with the result that he sometimes lives almost an ideal animal life, with its due proportion of amusement, exercise, rest, and sleep. The parents themselves are tied down to drudgery, overwork, worry, and long hours. The difference, when we reflect upon it, is startling. We make hygiene paramount for our children; for ourselves we neglect it totally, partly from the idea of sacrificing ourselves for the sake of our children, partly from necessity, real or imagined, and partly from the thralldom of habit already formed. With such a contrast between the recent improvement of hygiene in childhood and the lack of improvement in middle life, one need not wonder that the mortality of one period has improved and that of the other has not. We do not need to invoke the aid of the theory that weak lives have been more prolonged than strong lives. The moral is that hygiene should not stop in childhood. It is natural and proper, however, that the first attempt to apply hygienic knowledge should begin with children. It is through children that new ideas usually make their way into custom. "You can't teach an old dog new tricks." Grown persons have habits already formed, and when once a habit is formed, it is difficult to change it.

Habits of living among adults have even grown worse in some respects. Observing practitioners comment on the increasing nervous tension in modern life. The rush of the railway train, the telephone, the elevator, are at once an outgrowth and an excitant of this increased tension. They are life's pace-makers, and the pace is ever quickened. The health officer of New York City attributes to this severe strain the increase of heart and nervous diseases. It would be interesting to know the relative prevalence of adult diseases under conditions of reposeful and exciting surroundings and occupations, but I know of no investigation on this phase of the subject.

Recent figures for New York City show a decided reduction in the expectation of life of the middle aged. In Sweden, on the other hand, where personal hygiene is more fully practiced than in any other country, the expectation has increased for persons of all ages. This is especially interesting in view of the fact that Sweden

has fought infant mortality longer and more successfully than any other nation and has reduced that mortality for three or four generations. If the mere reduction of infant mortality were the cause of an increase of the adult mortality of the next generation, we should expect to see some trace of this effect in Sweden. But we find, instead, a reduction of mortality for all ages even of none-genarians. Recent figures from Great Britain show that the tendency of the death rates among the latter ages to increase seems to have given place to a slightly opposite tendency. The expectation of life at ages 40, 60, and 80 during the decade of 1891-1900 has a little more than held its own as compared with the previous decade.

Another point needs emphasis. When it is said that the lives of weak infants are prolonged, it is commonly overlooked that the same causes also prolong the lives of the strong, and, reversely, that unhygienic conditions which tend to exterminate the weak tend also to shorten the lives of the strong. Bad hygiene is merely a common handicap for all classes. The burden of proof is upon those who claim that it has a differential effect and increases the process of weeding out the unfit. This weeding-out process goes on whether there is a great or a small obstruction to overcome. Bad air and children's epidemics are the common environment of all. While this must produce a greater mortality, it remains to be shown that it would be more selective.

That a high infant mortality does not tend to lengthen life, but rather to stunt all life, would seem to be indicated by the evidence, so far as it can be interpreted. Russia, for instance, has a high infant mortality. If the statistics are to be trusted, it is 70 per cent greater than in the United States; yet Moscow and St. Petersburg have a general mortality rate which greatly exceeds that of similar cities in this country.

It may be that the more unfavorable the struggle for existence, the more rapidly will natural selection result in improved vitality. But even if this were true, it would not imply that in a more favorable environment selection would cease. And it may not be true. It may be that adversity, if too severe, will crush and injure the survivor as well as eliminate the unfit. We do not look for the best trees on the bleak mountain top, but in the genial valley. As we go up, the struggle for existence increases, until even the sturdiest fail to thrive above the "timber line."

Whether or not degeneration is actually going on is a question for which the data are insufficient for us to form certain conclusions. Personally I imagine that some actual race degeneration is going

on, though I do not attribute this to hygiene. There are certainly very strong forces working in the direction of degeneration, but there are also very strong forces working in the opposite direction, and presumably, the net influence of hygiene is opposed to degeneration. In discussing degeneration, one point must be borne in mind which has often been forgotten by writers on the subject. Man's fitness to live is relative to the environment in which he is to live. If muscular strength decreases, it is not a sign of degeneration, provided muscular strength is no longer needed. One does not speak of hothouse grapes as degenerates. They doubtless lack the hardy characteristics of wild grapes, but these characteristics are not needed in a hothouse.

If it should prove true that in some directions humanitarian impulses betray us into favoring the survival of the unfit and their perpetuation in the next generation, such shortsighted kindness must be checked. But all the dangers of perpetuating vital weaknesses can be avoided if proper health ideals are maintained. For when such health ideals become a national possession, fewer weak infants will be born into the world. This will come about in three ways: First, segregation, marriage and "sterilization" laws will reduce the number of marriages of degenerates. Secondly, parents will be more careful of transmitting disease or weakness to their offspring. Immorality, which practically means lack of sex hygiene, never strengthened a race; on the contrary, it has been the most potent cause of race extinction (of the Hawaiians, Indians, Negroes and others). Thirdly, the influence of higher ideals of health and vitality will tend both to restore the attraction of a strong and beautiful physique to its rightful place among the various attractions which lead to marriage, and to lessen the allurements of such extraneous attractions as wealth. In short, psychologically it is true that hygiene of our children and ourselves will lead us to eugenics, which is the hygiene of the next generation.

THE METHODS OF RACE REGENERATION (in outline)

C. W. SALEEBY, F.R.S.E., M.D., Author of "Parenthood and Race Culture," 1909.

A complete program of Race Regeneration or Eugenics requires the following, in my judgment, and according to my terminology:

A. Primary or Natural Eugenics

1. Positive Eugenics—the encouragement of worthy parenthood.
2. Negative Eugenics—the discouragement of unworthy parenthood.

3. Preventive Eugenics—the protection of parenthood from the racial poisons.

B. Secondary or Nurtural Eugenics

Involving due nurture of the individual from conception (not merely birth) till the end of the reproductive period. For these ends we may provisionally note certain methods, here arranged, for discussion, under three tentative heads.

A. Primary Eugenics

1. *Positive Eugenics.*

(a) *Rejected.* The institution of compulsory mating and anything else that involves the destruction of marriage.

(b) *Questioned.*

1. Marriage certificates or marriage permits.

2. Bonuses for children.

(c) *Accepted.*

1. “Maternity benefit”—much extended to protect last three months of pregnancy.

2. Education for parenthood.

3. Eugenic marriage—including eugenic laws of divorce.

2. *Negative Eugenics.*

(a) *Rejected.*

1. The lethal chamber, the permission of infant mortality, interference with ante-natal life, and all other synonyms for murder.

2. Mutilative surgery.

(b) *Questioned.* Non-mutilative sterilization.

Accepted. Segregation.

3. *Preventive Eugenics.*

(a) *Rejected.* The state regulation of vice.

(b) *Questioned.* The various legislative proposals for the control of dangerous trades, plumbism, etc.

(c) *Accepted.*

1. The notification of venereal disease and provision of treatment. (*At least*—notification of ophthalmia, heonorium, and of congenital syphilis.)

2. The expert instruction of adolescence.

3. The protection of parenthood from alcohol.

B. Secondary Eugenics

From the care of expectant motherhood, infancy, the home child (as I wish to call it), the school child, and adolescence onward.

CALCULATIONS ON THE WORKING OUT OF A PROPOSED PROGRAM OF STERILIZATION

H. H. LAUGHLIN, Superintendent Eugenics Record Office, Cold Spring Harbor, Long Island, New York.

There are two phases of the practical application of the Eugenics program. The first is concerned in fit and fertile matings among the upper levels. The second is concerned in cutting off the supply of defectives. For bringing about this latter end many agencies have been proposed. Among these agencies, however, only four appear to give great promise as practical remedies. These four agencies—education, legal restriction, segregation and sterilization—complement one another in the order named. They are a primary remedial value; if the first fails, apply the second; if it also fails, apply the third; if segregation ceases and the two factors do not deter from parenthood the potential parent of inadequates, apply the fourth. To purify the breeding stock of the race at all costs is the slogan of eugenics. The compulsory sterilization of certain degenerates is therefore designed as a eugenical agency complementary to the segregation of the socially unfit classes and to the control of the immigration of those who carry defective germ-plasm. It is at once evident that, unless this complementary agency is made nation-wide in its application, and is consistently followed by most of the states, it cannot greatly reduce, with the ultimate end of practically cutting off, the great mass of defectiveness now endangering the conservation of our best human stock, and consequently menacing our national efficiency and happiness.

In order to determine with as much precision as possible the extent of the problem and the possibility of its practical solution the following calculations have been made. They are a fair measure of the number and extent of sterilizing operations necessary for accomplishing the desired end. (See chart: Rate of Efficiency of the proposed Segregation and Sterilization Program.)

EXPLANATION AND SUBSTANTIATION OF CALCULATIONS

From the accompanying chart it is seen that the rate of efficiency of the proposed program is dependent primarily upon the length of time required to send to state institutions, regardless of length of commitment periods, the potential parents of the varieties sought to eliminate. The following factors determine this period of time:

RATE OF EFFICIENCY OF THE PROPOSED SEGREGATION AND STERILIZATION PROGRAM

EFFECTIVENESS OF THE PROGRAM DEPENDS UPON:—

1. The length of time required to send to State institutions—regardless of length of commitments—all of the breeding stock of the varieties sought to eliminate.
2. The sterilization upon release from State custody of all individuals of such varieties possessing reproductive potentialities.

The following table shows the reasonable expectation of the approximate working out of this program—if consistently followed—for eliminating the defective and anti-social varieties from the American population, under the following specific conditions:—

1. That the varieties (*i. e.*, the breeding stock of defectives, including both affected and unaffected individuals of all ages) sought to exterminate now (1915) constitutes 10% of the total population.
2. That those portions of the defective varieties permitted to reproduce, increase at a rate equal to that of the general population, plus 5% each half decade.
3. That the group of State institutions for the socially inadequate, whose inmates by actual count constituted in 1890, .590%; in 1900, .807%, and in 1910, .914% of the total population, provide for and receive inmates at a rate equal to that of the increase of the general population, plus 5% each half decade.
4. That the inmates of institutions continue to be drawn from the two sexes and from each age group in even proportions to the total numbers of individuals of the corresponding sex and age group in the total population of the varieties sought to eliminate.
5. That the average "institution generation" (*i. e.*, average period of commitment) be 5 years.
6. That the Federal Government co-operate with the States to the extent of prohibiting the landing of foreigners of potential parenthood of innate traits lower than the lowest of the better 90% of the blood already established here, *i. e.*, belonging to the varieties of the lower 10% sought to cut off.

TABLE I

1	HALF DECADE ENDING	1915	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985
2	Per cent. of total population constituting the varieties sought to eliminate	10.00	9.70	9.35	8.94	8.46	7.91	7.28	6.57	5.77	4.88	3.88	2.77	1.54	.18	-1.32
3	Per cent. of total population in institutions	.800	.840	.882	.926	.972	1.021	1.072	1.126	1.185	1.244	1.306	1.371	1.440	1.512	1.588
4	Probable total population of the U. S.		110,000,000		131,000,000		155,000,000		181,000,000		210,000,000		241,000,000		275,000,000	
5	Probable total numbers in the varieties sought to eliminate if program is carried out		10,670,000		11,711,400		12,260,500		11,891,700		10,248,000		6,075,700		495,000	
6	Total number of inmates in institutions called for by proposed program		924,000		1,213,060		1,532,550		2,038,060		2,612,400		3,304,110		4,158,000	
7	Number of sterilization operations required per year per 100,000 population	80.0	84.0	88.2	92.6	97.2	102.1	107.2	112.6	118.5	124.4	130.6	137.1	144.0	151.2	158.8
8	Probable total number of sterilizing operations required per year for the entire population		92,400		121,306		158,255		203,806		260,400		330,170		415,500	

How CALCULATED:—Rank 1, Dates. Rank 2, Per cent. at previous date, plus 5% of such per cent., minus institution population for period. Rank 3, Per cent. at previous period plus 5% of such per cent. Rank 4, estimated by W. J. McGee in 1911. Rank 5, item of Rank 2, times that of Rank 4. Rank 6, item of Rank 3, times that of Rank 4. Rank 7, based upon the sterilization of one-half of the total number of persons committed to institutions, the other half being either (a) past the reproductive age, or (b) naturally or pathogenically sterile, or (c) sterilized upon release from previous commitments, or (d) capable of eugenical education, or (e) not belonging to defective strains, or (f) dying while still in the custody of the State. Rank 8, item of Rank 7, times that of Rank 4, divided by 100,000.

TABLE II (BASED ON TABLE I)

HALF DECADE ENDING—

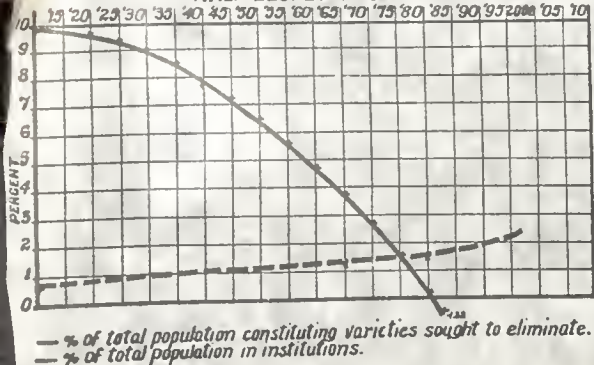


TABLE III (BASED ON TABLE I)

HALF DECADE ENDING—

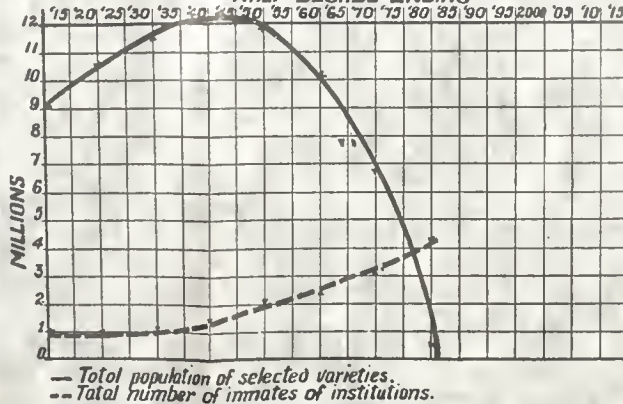
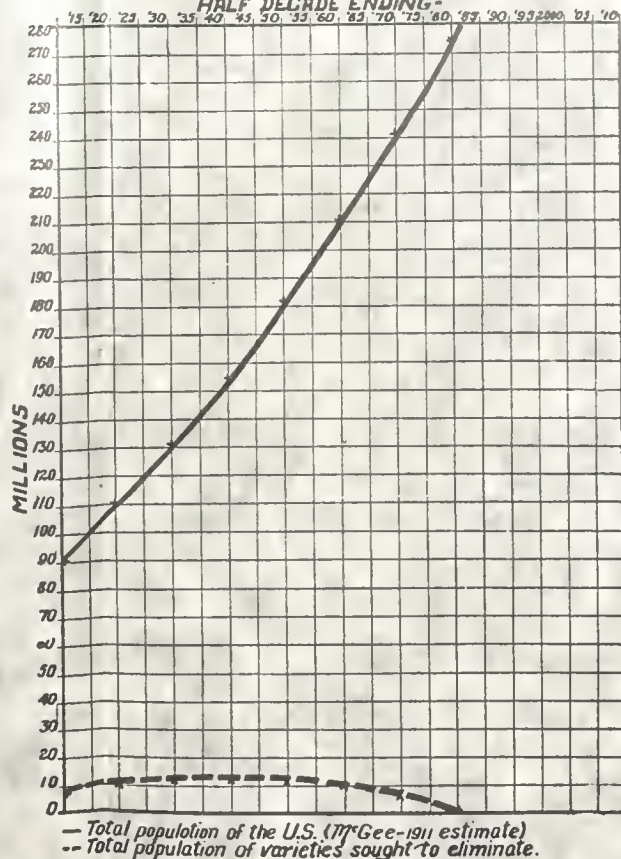


TABLE IV (BASED ON TABLE I)

HALF DECADE ENDING—



NOTE—The estimate for population increased (Rank 4) does not take into consideration the effects of the proposed segregation and sterilization program herewith outlined; the effect of which would be to decrease the total somewhat. Estimating future population is at best an uncertainty. The calculations involved in this table are based upon percentages, and the program will work out the same whether the population increases rapidly or slowly. However, following McGee's estimate, which is median between the extremes recently made by demographers, it is probable that during the interval between the present and 1985 between 350,000,000 and 400,000,000 persons will be born in the United States; should such be the case and should our institutions follow their present trend of development, approximately 30,000,000 of these persons will come under custodial care of the several States. Under the present estimate it would be necessary to sterilize during this period, approximately 15,000,000 persons—beginning with 92,400 per year in 1915 and increasing to 415,000 per year by 1980.

RATE OF EFFICIENCY OF THE PROGRAM

1

EFFECTIVENESS OF THE PROGRAM DEPENDS UPON:

1. The length of time required to send to State institutions—
2. The sterilization upon release from State custody of all individuals
3. The following table shows the reasonable expectation of the speed and anti-social varieties from the American population, under the following conditions:
 1. That the varieties (A, B, C) the breeding stock of defective individuals constitutes 10% of the total population
 2. That those portions of the defective varieties form 1 half decade.
 3. That the group of State institutions for the society in 1910, 914% of the total population provide for 5% each half decade.
 4. That the inmates of institutions continue to be drawn individuals of the corresponding sex and age group
 5. That the average "institution generation" (A, B, C) are
 6. That the Federal Government cooperate with the State traits lower than the lowest of the best 90% of the to cut off.

1	2	3	4	5	6	7	8
HAIR DECADE ENDING	1910	1920	1930	1940	1950	1960	1970
Per cent of total population constituting the varieties sought to eliminate	10.00	9.70	9.30	8.94	8.48		
Per cent of total population in institutions	.800	.840	.88	.928	.972		
Probable total population of the U.S.	110,000,000	110,000,000	111,000,000	112,000,000	113,000,000		
Probable total number in the varieties sought to eliminate if program is carried out	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000		
Total number of inmates in institutions called for by proposed program	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000		
Number of sterilization operations required per 100,000 population	30.0	30.0	30.0	30.0	30.0		
Probable total number of sterilizing operations required per year for the entire population	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000		

How CALCULATED:—Rank 1, Dates. Rank 2, Per cent at previous period plus 5% of such per cent. Rank 4, estimated by W. J.

INMATES OF INSTITUTIONS IN THE UNITED STATES.

INCREASE (+) DECREASE (-)

WELSH CENSUS 1902 THE THIRTEEN M31

Institutions for	No. of Institutions	No. of inmates	Inmates per 100,000 Population	No. of Institutions	No. of inmates	Inmates per 100,000 Population	No. of Institutions	No. of inmates	Inmates per 100,000 Population	No. of Institutions	No. of inmates	Inmates per 100,000 Population	No. of Institutions	No. of inmates	Inmates per 100,000 Population
Blind	88	7,652	12.2	115	15,153	18.	X	X	X						
Deaf	24	5,254	8.4	42	14,347	18.6	X	62	20731	22.5	+18	+9,093	+10.4	+20	+6,384
Feeble-Minded	162	74,028	118.2	328	150,151	186.2		367	187,791	204.2	+166	+76,123	+6.8	+39	+37,640
Insane	2,602	82,329	131.5	1,337	87,772	100.6	(40)	X	2918	111,609	-126.5	-557	-30.4	+1641	+29,937
Criminal	58	14,846	23.7	93	23,034	28.3	X	99	25,000	27.2	+55	+8,188	+4.6	+6	+1,966
Chronic Delinquents	2,373	73,045	116.6	2,476	87,764	101.4	X	2,412	84,198	91.5	+103	+8,719	-15.2	-64	+2,434
Paupers	1,916	111,910	179.8	4,092	268,656	334.6	X	3,290	396,476	431.1	+217.6	+154,746	+174.8	+1,198	+1,27820
Emergency															
Total	7223	369,064	530.4	8483	634,877	807.9		11,333	841,244	914.7	+1260	+265,813	+217.5	+2850	+206,367

2) Her. C. Bell's special enumeration:- Blind & 713 - 1861 89, 1867
64) Epileptics included for the most part with the Feeble-minded.
65) U.S. Civil Prisons, State Prisons, State & County Penitentiary, Reformatories for Adults, County

jails & work-houses, Municipal Prisons and work-houses, including 530 empty county jails.

(10) *Excludes all of the institutions, reports undatable.*

** Data supplied Oct. 6, 1913 by special courtesy of Wm. J. Harris, Director of the census*

EUGENICS RECORD OFFICE.

COLD SPRING HARBOR,

**EUGENICS RECORD OFFICE,
COLD SPRING HARBOR,
L.I. NY.**

a. The Portion of the Population Which It is Sought to Cut Off.

The extirpation of hereditary defectiveness under the proposed program is dependent upon the growth, development, and use of our institutions for the socially inadequate. In these calculations it is assumed that the lowest ten per cent of the human stock are so meagerly endowed by Nature that their perpetuation would constitute a social menace. The manner of arriving at this estimate is as follows:

In 1910 .914 per cent of our total population were inmates of the institutions for the socially inadequate. Their average period of custody or commitment was less than five years (see Table VI); then, after allowing for the cases of multiple commitments (see Table VIII), the total number of living persons who have been legally committed to institutions must be represented by several times this per cent. Besides this portion of the total population, there is another portion who are equipped with equally meager natural endowments, but who have never been committed to institutions. In addition to this body of persons, there is another group of persons who, though themselves normal, constitute a breeding stock which continually produces defectives; they are so interwoven in kinship with the lower levels that they are totally unfitted for parenthood. The assumed ten per cent, or, to use a current expression, "the submerged tenth," appears for the purpose of this study to be a fair estimate of the extent of the body of degeneracy which the American people can now, in the interest of social betterment, well seek to cut off. The primary or basal factor, namely, the commitment of all of the members of the socially inadequate strains to institutions, is, in turn, dependent upon several component factors, the first of which is the differential birth rate of the submerged tenth compared with that of the normal and supernormal nintenths.

b. Differential Birth Rate.

In these calculations the lowest tenth are given a birth rate greater by five per cent each half decade than that of the general population. This factor is included in these calculations in deference to prevailing opinion, that, generally, defective and inferior human stock reproduce more rapidly than our better strains. The following table shows the result of a preliminary study of this field:

TABLE V.

PECUNDITY AND INFANT MORTALITY DIFFERENTIAL BETWEEN NORMAL AND
SUBNORMAL FAMILIES

	NORMAL FAMILIES	SUBNORMAL FAMILIES
Number of Matings	701	1,054
Total Number of Children	3227	4,640
Average Number of Children per Family	4.6	4.4
Infant Mortality—		
Male	131	463
Female	109	237
Sex Unknown	27	106
Total	267	806
Percentage Infant Mortality	8.3	17.4

The normal families recorded on this table are those of American professional and business men; the subnormal families are each represented by one or more members in one or more institutions for the insane, epileptic, feeble-minded, or criminalistic classes. Although the numbers are small, the families were selected in serial order, without regard to fecundity. While not conclusive, this special study points toward a small differential fecundity in favor of the normal families over defectives, rather than the reverse, as is generally held. Incidentally, there is a more definite differential infant mortality, working by natural process to reduce the defective population. The estimate, then, of the differential fecundity of 5 per cent, each half decade, for the "submerged tenth" seems certainly to cover the actual rate of increase of this class. It is clear that such an estimate tends, in these calculations, to delay the consummation sought by the program: the object of estimating so great a fecundity of defectives is to insure conservatism in the calculations. However, further investigation, based upon first-hand materials, is needed to determine the facts of differential fecundity.

c. Future Growth of Institutions for the Socially Inadequate.

These calculations provide that there shall be an increase in the capacity of state institutions for the anti-social classes, not only absolutely, but also in relation to the increasing total population. The rate of increase used in the calculations is equal to that of the total population plus 5 per cent each half decade. This is approximately one-third the rate of increase for the decade 1890-1900, and three-fourths the increase for the decade 1900-1910. This proportion is based upon the fact that in 1890, .590 per cent; in 1900, .807 per cent, and in 1910, .914 per cent of our total population were in institutions. This is an increase of 37 per cent per 100,000 population for the decade 1890-1900 and 13 per cent for the decade 1900-1910.

That there is clearly a movement toward increasing, both absolutely and relative to the total population, the facilities for caring for such classes, is seen by the data just given. The increase for the last decade is not so great relatively as that of the preceding decade; but the increase is still differential in respect to the growth of population. Accompanying this numerical growth there is a refinement of social ideals, and legal processes governing the commitment of the anti-social to state institutions; as well as a better understanding of the cause and nature of their shortcomings.

d. Sex and Age of Persons Committed to State Custody.

Another determining factor in these calculations is the sex and average age of persons committed to state custody. The correctness of these calculations in measuring the possibility of achieving the desired end is dependent upon the selection of individuals for commitment to institutions, from all ages and from both sexes, in proportion to the total numbers of each age and sex in the general population. Should the commitment to institutions be deferred until after the reproductive period, then the segregation and sterilization program would be useless as an agency for reducing the anti-social strains. If, however, the commitment is made early in or before the reproductive period, then the recommended program will function as intended.

The report of the State Commission of Prisons for New York for 1912 shows that for the year ending Sept. 30, 1912, the maximum number of commitments to the state prisons was reached in the age group of 24 years. For the year ending Sept. 30, 1911, the report of the New York State Commission in Lunacy shows that for the insane the maximum number of commitments of native-born persons to the State Hospitals was reached at the age group 35-39 years. This group represented 11.7 per cent of the total native-born first admissions, while at ages younger than this, were represented by 39.6 per cent of the total of such admissions. For the foreign-born the same maximum was reached in the age group 25-29 years, with 15.2 per cent of the total of such admissions during earlier years.

In response to a special inquiry sent out by the committee in the spring of 1913, data were secured from which the following table has been compiled:

TABLE VI.

Type of Institution	Number of Institutions Reporting	Average Age of Persons Committed in 1912	Average Age of Persons Discharged in 1912	Average Length of Commitment of Persons Discharged in 1912
Hospitals for the Insane	55	34.70 years	38.30 years	5.33 years
Reformatories and Industrial Homes	24	16.88 years	19.32 years	2.39 years
Prisons and Penitentiaries . . .	8	32.21 years	32.28 years	2.64 years
Institutions for the Blind	8	11.40 years	18.17 years	9.00 years
Institutions for the Deaf	8	8.87 years	17.02 years	9.20 years
Institutions for Epileptics	5	24.85 years	29.23 years	2.19 years
Institutions for the Feeble-Minded	17	17.98 years	20.54 years	4.74 years
Institutions for the Feeble-Minded and Epileptic	5	16.92 years	20.27 years	5.13 years

In the report of the State Commission in Lunacy for California, June 30, 1912, Dr. F. W. Hatch, the General Superintendent of State Hospitals, reports the ages of persons operated upon, as follows:

TABLE VII.

PERSONS STERILIZED UNDER THE CALIFORNIA STATUTE

Ages of Those Operated Upon	Male	Female	Total
1 to 10 years	1	0	1
15 to 19 years	24	15	39
20 to 24 years	33	25	58
25 to 29 years	33	28	61
30 to 34 years	17	28	45
35 to 39 years	22	12	34
40 to 44 years	9	3	12
45 to 49 years	3	1	4
50 to 54 years	1	0	1
55 to 60 years	1	0	1
Unknown	144	112	256
	6	6	12
Totals	150	118	268

Civil Condition	Male	Female	Total
Single	105	46	151
Married	21	61	82
Divorced or widowed	5	6	11
Unknown	19	5	24
Totals	150	118	268

From Table VI it is apparent that at present the socially inadequate are being committed to institutions at an age early in their reproductive periods; early enough, it is clear, to forestall the birth

of a large percentage of the offspring who would normally be born to these persons, and from Table VII it is equally clear that in practice the California operations have, as a rule, been had early enough to be in a large measure eugenically effective, if the persons operated upon carried defective qualities; but, even here it is evident that the age limit must be lowered, if the greatest eugenical good is to accrue from such measures. The civil condition is not so important, for among the anti-social classes illegitimacy runs high. If the future tendency should be toward earlier commitments—and it is apparent that such is the case—then the cutting-off process would be hastened.

The sex of the persons sterilized is an important eugenical factor, for it is evident that with the lower strains of humanity, among whom illegitimacy is high, it will be necessary to sterilize degenerate women in numbers in fair proportion to the number of males sterilized. This fact has its biological analogy as follows:

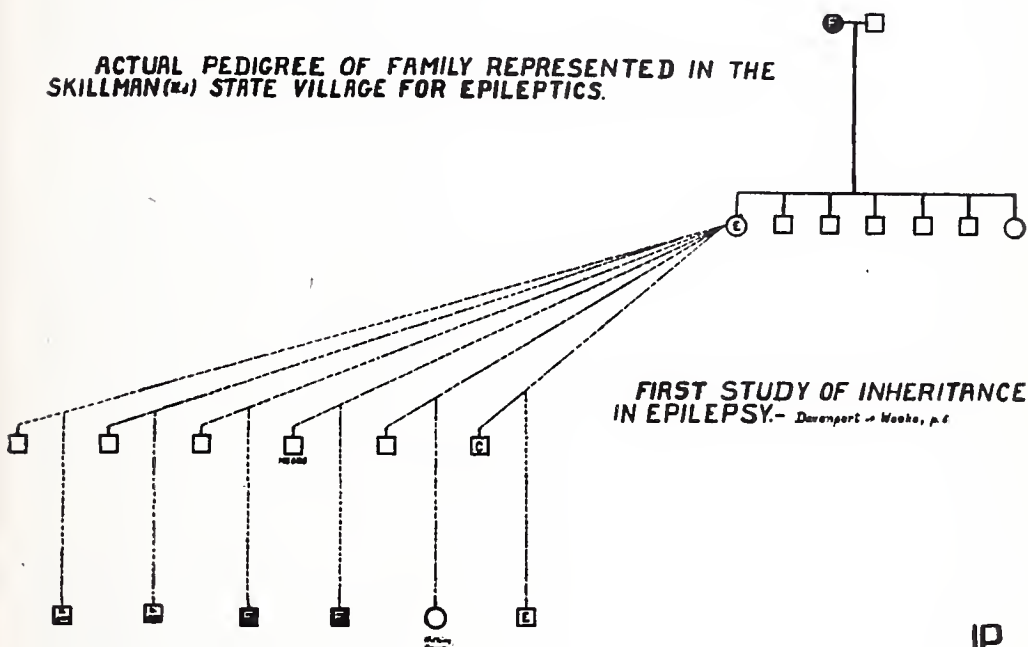
In the breeding of the higher and more valuable types of domestic animals, such as horses and cattle, sterilization of surplus males is one custom universally practiced. The females of these animals are well cared for and protected from free union with the males; here selected matings are the rule. However, in the case of domestic animals of less value, having mongrel and homeless strains, such as the dog and the cat, the cutting off of their supply is largely effected through the destruction or the unsexing of the females. As a rule the tax on a female dog is two or three times greater than that on a male dog. Such difference in taxation is not made because of a difference in individual menace, but rather because of a more *direct* responsibility for reproduction. The females of such homeless strains are not protected, and consequently they increase very rapidly. Consorting freely with equally worthless mates, their progeny are often excessive in numbers, and of a worthless, mongrel sort. The castration of one-half of the mongrel male dogs would not effect a substantial reduction in the number of mongrel pups born.

The unprotected females of the socially unfit classes bear, in human society, a place comparable to that of the females of mongrel strains of domestic animals. As a case in point, the accompanying pedigree, from "A First Study of Inheritance in Epilepsy" by Davenport and Weeks, illustrates the manner of the increase of defective children by defective women. This actual family record is an example of the type of pedigree which was so common in the family histories studied by Davenport and Weeks that they gave it a

name—"the almshouse type"—a sad commentary on the general inefficiency of such institutions.

POORHOUSE TYPE OF SOURCE OF DEFECTIVES.

ACTUAL PEDIGREE OF FAMILY REPRESENTED IN THE SKILLMAN (N.Y.) STATE VILLAGE FOR EPILEPTICS.



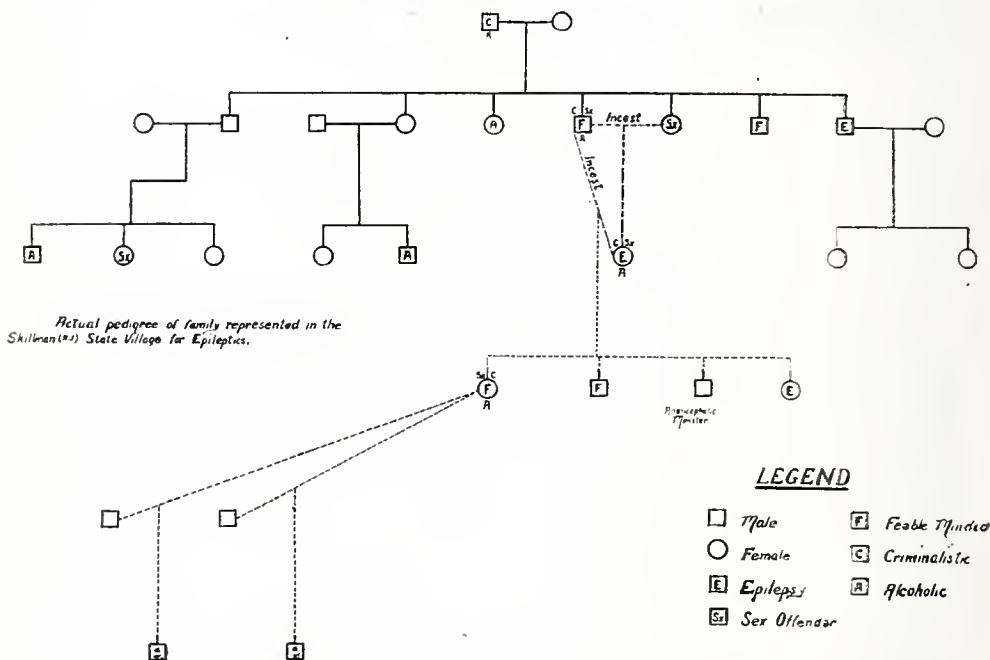
The central figure is a feeble-minded woman subject to epileptic fits, descended from a feeble-minded mother and shiftless, worthless father. She has spent most of her life in the almshouse, and all of her children have been inmates. One is by a negro, whom she met in the almshouse. Two of the children died in infancy; one, of whom little is known, died at the age of eighteen. Of the remainder, two are feeble-minded, and one, from a sire of criminal tendencies, is an epileptic imbecile.

On Sept. 30, 1912, New York State Prisons held in custody 14,791 persons. Of this number, 1,887 were women and 12,904 were men. With the criminalistic the method of reaching the women of such strains becomes very difficult. With the insane, however, the problem is much more evenly balanced. On Sept. 30, 1911, the New York State Hospitals for the Insane held in custody a total of 33,311 persons—16,010 men and 17,301 women.

There is another type of pedigree by Davenport and Weeks which the same study brought to light—"the hovel type." In such families incest is rife. The accompanying pedigree of this type shows a condition wherein the sterilization of both the male and the female would have been desirable, for, with an equal lack of sex control in both of them, it is likely that, if the unions specified in the pedigree had not

been made, both male and female would have found consorts elsewhere and would thus have perpetuated their unworthy stock.

HOVEL TYPE OF SOURCE OF DEFECTIVES.



It is thus clear that in the application of the program of eugenical sterilization, no difference should be made between the male and female—hereditary unfitness alone should be the criterion.

e. Average Period of Commitment.

The average period of commitment is assumed, in these estimates, to be five years. From the examination of Table VI, one is convinced that it is certainly not greater than this term of years. The long estimate used in these calculations will doubtless cover the cases wherein sterilized persons would be returned to the state's custody. From the report of the New York State Commission of Prisons for 1912, the following table is secured:

From this table it is apparent that the reformatories have at some time in the previous career of the inmates of the prisons had custody of a large percentage of them. This is a eugenical advantage, for their inborn qualities would, under the policy outlined, have been determined before their reproductive periods began.

TABLE VIII.

FOUR MEN'S PRISONS. NUMBER OF TIMES PRISONERS ADMITTED DURING THE YEAR
ENDING SEPT. 30, 1912, HAVE BEEN COMMITTED TO PRISON

A		B	
To Prisons Now (1912) Detaining Them		Number of Times Confined in Other Penal Institutions	
First Time	3,075	Prisons	737
Second Time	237	Penitentiaries	887
Third Time	55	Reformatories	1,002
Fourth Time and Over	23	Refuges	269
		Jails	566
Total	3,390	Miscellaneous Institutions	212
		Total	3,673

For the year ending Sept. 30, 1911, of the total of 7,867 admissions to the hospitals for the insane of New York State, 1,639 were readmissions.

Under the program, the shorter the periods of commitment, the more rapidly will the whole body of individuals possessing hereditary potentialities for defective parenthood be sent through institutions; and if the program were carried out as contemplated, their blood lines would be cut off the more rapidly. There are, however, many reformatory and other social considerations which must, of course, determine the length of commitment. Sterilization is simply an insurance when segregation ceases.

f. Control of Immigration.

As a final factor, the federal government must cooperate with the states to the extent of excluding from America immigrants who are potential parents and who are by nature endowed with traits of less value than the better ninety per cent of our existing breeding stock. According to the census of 1910 the native-born population of New York constituted 70.1 per cent and the foreign-born constituted 29.9 per cent of the total population of the state. To the state hospital for the insane the native-born element contributed 51.28 per cent and the foreign-born 48.02 per cent (.70 per cent unascertained) of the total admissions for the year ending Sept. 30, 1911. The foreign-born element thus contributed to the New York hospitals for the insane at the rate of 2.019 times that of the native-born population. To the state prisons of New York the native-born element contributed 65.8 per cent and the foreign-born 34.2 per cent of the total admissions in the year ending Sept. 30, 1912. For the state prisons, therefore, the foreign-born element contributed admissions at a rate 1.21 times greater than did the native-born population.

The federal government, which has control of immigration, owes

it not only to New York State on social and economic grounds, but to the American people on biological grounds to exclude from the country this degenerate breeding stock.

Adequate data, upon which such differential exclusion could be based, can be secured only by investigating the traits of immigrant families in their native towns and villages, by sending trained field workers to such places. In view of the fact that the germ-plasm of a nation is always its greatest asset, and that the expense of such measures would be paying investments—not only in dollars and cents, but in the inborn qualities of future generations—the task should be undertaken. At a cost not at all prohibitive, a large majority of this degeneracy could be detected. Every nation has its own eugenical problems, and in the absence of a world-wide eugenical policy, every nation must protect its own innate capacities. From the viewpoint of eugenics, differential immigration is not directly a matter of nationality nor of race, but is rather one of family traits compatible with good citizenship.

g. General Considerations; Probable Number of Operations Required.

These calculations are based upon the sterilization of one-half of the socially inadequate persons legally committed to the custody of the state, relying upon the other half being (a) past the reproductive age, or (b) congenitally or pathogenically sterile, or (c) sterilized upon release from some previous commitment, or (d) susceptible to educational influences deterring them from reproducing, or (e) not carriers of a defective germ-plasm, or (f) dying while still in custody of the state. There are therefore excluded from liability to sterilization the inmates and patients of hospitals and institutions for such classes as the tubercular, the crippled, the blind, and the deaf, in cases wherein such persons are not also mentally defective or anti-social as well as simply inadequate personally as useful members of society.

For such classes eugenical education, humanitarian aid, restrictive marriage laws and customs, and possibly, in certain cases, voluntary rather than enforced sterilization appear to be the proper eugenical remedies.

During the year ending Sept. 30, 1912, there were discharged from the state hospitals for the insane of New York 3,796 persons, while 2,886 died while still in the custody of the state.

Of all the defective classes subject to this program, the feeble-minded strains would, by the consistent application of such a program, die out most rapidly, since their defects are either congenital or appear relatively early in life. The decimation of the cacaes-

thetic, the deformed, the epileptic, the criminalistic and the insane strains would follow probably in order named.

Dr. F. W. Hatch, who supplied the data for Table VII, reports also the data for the following table:

TABLE IX.
LEGALIZED STERILIZING OPERATIONS IN CALIFORNIA

Types of Persons Sterilized	Male	Female	Total
Dementia Præcox	34	18	52
Manic Depressive	45	61	106
Alcoholic Psychosis	22	1	23
Epilepsy	12	10	22
Imbecility	20	12	32
Confusional and Other Forms	10	6	16
Paranoia	3	0	3
Unclassified	4	10	14
Total Number of Persons Sterilized up to June 30, 1912.	150	118	268

From the table it is seen that 20 per cent of the operations were performed on imbeciles or epileptics, and practically all of the remainder on insane persons. The ratio of the number of feeble-minded to the number of insane in institutions is approximately 1 to 10. The California ratio is in keeping with expectation, and therefore appears to form a fair basis for estimating the future ration of *aments* and *dements*, who would be sterilized under a eugenical sterilization law.

Regardless of the time when such a policy is put into effect, if the program outlined works out as calculated; namely, cuts off the lowest one-tenth of the total population, it would require initial sterilization at the rate of 80 persons per year per 100,000 total population, increasing to approximately 150 per year per 100,000 total population at the end of two generations. If the work should be begun during the present decade, it would, in accordance with conservative estimates of future population, require the sterilization of approximately fifteen million (15,000,000) persons during this interval. At the end of the time we would have cut off the inheritance of the present "submerged tenth," and would begin the second period of still more eugenically effective decimal elimination. The infinite tangle of germ-plasm continually making new combinations will make such a policy of decimal elimination perpetually of value. Although the present lowest levels, as we know them, may have disappeared, still it will always be desirable to purge the existing stock of its lowest strains. According to Darwin.

"When in any nation the standard of intellect and the number of intellectual men have increased, we may expect from the law of

the deviation from the average that prodigies of genius will appear somewhat more frequently than before."

As a logical corollary to this, we should expect the fortune of recombination of ancestral elements to produce fewer human "culls."

The conservative sterilization program, beginning with only a few operations, applying only to those most patently degenerate, will allow in time for the segregation, in the complex network of national heredity, of a larger portion of the good from the bad traits, making possible the salvage of a great portion of good that is now associated in the same individual with the most unworthy qualities. It is even urged against eugenics that, if sterilization or other eugenical elimination had been the rule, so and so would not have been born. Perhaps so, but would not other personalities—one or perhaps many—of equal or better natural endowment have appeared in his or her place?

The present experimental sterilization laws have been pioneers—pointing the way—and as such they are to be commended, but as remedies for social deterioration they have not thus far, in a national way, functioned. Indeed less than 1,000 sterilizing operations have been performed under the immediate provisions or even under the shadow of the twelve statutes. With this in view, the rate of sterilization required seems high, but, unless the people of the several states are willing to attack the problem in its entirety, they cannot hope to find in sterilization, as complementing segregation, anything more than a slight palliative for the present condition from which we are seeking relief. A halfway measure will never strike deeply at the roots of the evil. In animal breeding, when any great results are wrought, or when new and superior breeds are made within a few generations, it is the selected one per cent or at most the tenth part that are selected for reproduction rather than the upper ninety-odd per cent which this conservative program calls for. But since segregation and sterilization seek not to make over the upper levels of the race, nor to establish new and better human strains (these are the tasks for constructive eugenics during the long indefinite future), but simply to cut off the most worthless one-tenth, the rate of sterilization required seems sufficient.

The recommended program would give ample opportunity for beginning on a very conservative scale. No mistakes need be made; for at first only the very lowest would be selected for sterilization, and their selection would be based upon the study of their personal and family histories, and the individual so selected must first be proved to be the carrier of hereditary traits of a low and menacing

order. As time passes, and the science of eugenics becomes more exact, and a corps of experts, competent to judge hereditary qualities, are developed, and public opinion rallies to the support of the measures, a large percentage could, with equal safety, be cut off each year. While the cutting off of personalities of as little worth as our present lowest one-tenth will take two generations, still some benefits would begin to accrue almost immediately after the inauguration of the policy. It would, of course, be possible to cut off a large portion of our lowest levels at one fell swoop, but the dangers, the difficulties—both practical and scientific—and the injustice involved would be insuperable. No one advocates such a plan, but a policy of small beginnings and conservative development seems wise.

Unless all of the states cooperate in the purging of the blood of the American people of its bad strains, and their cooperation is supported by the federal government in respect to immigration, as indicated in the calculations, we should not expect the program to work out as calculated. The federal government must, at some future time, undertake an inquiry in the home countries of prospective immigrants, concerning their hereditary traits. Such a program, nation-wide in extent, is possible only when the public becomes convinced that it is possible to judge of the hereditary potentialities of a given individual and that in enforcing the experimental laws already on the statute books, scientific truths were being applied in an unerring and humane manner.

There is in this program nothing from a financial point of view to hinder its immediate inauguration, as outlined, by all of the states. Indeed, the expense per capita to the people of the state for the care of the socially inadequate of the present lowest levels would decline rapidly. By painstaking analysis of state reports the table on the following page has been worked out.

This table, which the committee hopes to be able to extend so as to include data for all of the states, shows the movement in state expenditures for institutions for the socially unfit. In order to keep this growth of expenditure from overwhelming and bankrupting our state governments, it behooves the several states to provide more ample opportunity for the managers of their institutions to work out the industrial and farming systems, whereby the inhabitants of their institutions may not only be happier, healthier, and better trained than at present, but will also contribute more largely to their own welfare and maintenance. Our institutions for the socially dependent are more nearly approaching hospitals and vocational schools in their equipment and management, and less and

less have the appearance and real character of jails and dungeons. Any money, moreover, that the state invests in such modern plants will not be wasted; for, when the anti-soeial classes, as we now know them, diminish in number, the lower tenth will always need voeational training such as these echanged institutions could so well provide, and the cost of such training, like all expenditure for fitting education, would be a national investment rather than a dead expense or a tribute to degeneraey.

TABLE X.

STATE EXPENDITURES FOR THE SOCIALLY INADEQUATE: PER CENT OF TOTAL STATE EXPENDITURES DEVOTED TO INSTITUTIONS FOR THE SOCIALLY INADEQUATE

Date	Connecticut	Massachusetts	West Virginia	Virginia
	Per Cent	Per Cent	Per Cent	Per Cent
1891	21.5	23.9	23.6	27.4
1892	25.7	27.6	25.3
1893	19.7	26.9	22.6	22.6
1894	25.5	26.9	24.8	24.4
1895	24.4	23.9	26.6	25.2
1896	24.7	23.8	27.2	25.3
1897	25.3	22.7	27.9	25.0
1898	25.5	23.9	27.0	23.8
1899	23.5	21.2	28.4	22.3
1900	38.1	21.0	27.6	22.7
Total for Decade	24.7	23.7	26.4	24.3
Cost to the People Per Capita for the Decade	\$23.28	\$23.84	\$16.06	\$17.76
1901	24.7	30.3	25.3	21.8
1902	26.8	28.7	24.8	22.5
1903	20.9	27.3	27.4	22.4
1904	23.4	37.2	26.1	21.2
1905	20.6	36.1	21.2	19.6
1906	29.6	37.6	18.4	18.4
1907	23.2	36.4	14.7	19.3
1908	23.4	34.9	13.1	19.6
1909	16.2	38.3	11.6	19.1
1910	18.9	37.1	15.0	19.4
Total for Decade	22.0	35.0	17.7	20.1
Cost to the People Per Capita for the Decade	\$34.68	\$29.54	\$26.95	\$23.27

Moreover, the increasing fitness to their purposes should actually, and does appear to so govern the evolution of our state institutions for the soeially inadequate. It is not, therefore, to be presumed that a state would develop its institutions and its sterilization policy at a constantly increasing rate, all for the purpose of bringing the program of decimal elimination and consequently the usefulness of most of the costly institutions to a sudden end, the former result as indicated by Tables I, II, III and IV of the inserted echart. These ealculations demonstrate simply the possibility of achieving such a program of elimination, but the program itself

is subject to change and betterment. For instance, long before the end of two generations, the eugenics commissions of the several states should, and doubtless will, be authorized and directed by law to extend their investigations and their selections for sterilization to the population at large. The end sought, namely, the cutting off of the lines of descent of the present lowest one-tenth of our existing population, could, by such an extension, be accomplished without the accompanying institutional growth which the indefinite continuation of the present initial policy calls for; not only is this true, but in addition the contemplated end would be brought about more rapidly. Such an extension of application to the whole population should, however, in the interests of safety, be postponed for a term of years, ten possibly, thereby permitting the growth of eugenical knowledge and sentiment among the people, the education of a corps of experts in human heredity, and the building up of an inventory by the state of its cacogenic human stock.

There is one contingency by which the authority of the eugenics commission would have to be extended to the whole population at an earlier date. This contingency consists in the possibility that the Supreme Court of the United States might, in case the constitutionality of one of the existing sterilization laws is tested before that body, decide that the application of sterilization only to inmates of the institutions constitutes a breach of the Fourteenth Amendment to the Federal Constitution, which provides that none of the states shall "deny to any person within its jurisdiction the equal protection of the laws." In the light of the legal opinions presented in this report, it is not believed that the Supreme Court would hand down such a decision, and in the interest of sound eugenical progress it is hoped that it will not be necessary to extend the authority of the eugenics commission to the whole population immediately, howsoever desirable such an extension would be in the future. The immediate limitation of the law to the inmates of institutions is solely in the interests of justice and unerring application, and should not therefore be deemed discriminatory.

Attention is directed toward an interesting phenomenon of Tables I, II, III, and IV of the Rate of Efficiency chart of this paper. The striking feature in the working out of the suggested policy consists in the fact that absolutely the numbers within the socially inadequate classes would increase for a few years, after which, by the constant application of the same policy, the decline would come very rapidly. Such phenomena are common with practically all things that change by the application of persevering forces—business ventures, institutional growth, the working out of

governmental policy, the trajectories of missiles, military campaigns, the ravages of a plague, the ontogenesis of an individual, and the rise and decline of plant and animal species—all experience strenuous struggle in overcoming initial inertia or resistance; finally the movement is accelerated, and, gathering momentum, the passing by a given point, a culmination or fruition, or an extinction, as the case may be, is achieved at a relatively great speed.

h. Conclusion.

The data for these calculations have been carefully compiled, and the estimate for each of the factors is made on the conservative side—in each case tending to delay the culmination. The arithmetic is correct; if one accepts the conditions, he must accept the conclusion also. If it is held that the bases for the calculations are too optimistically chosen, then it is necessary only to extend the time of culmination; the essential thing is that such an end is possible in consonance with modern humanitarian ideals and reasonable social endeavor. However, for the reasons herein enumerated it is believed that the time allotted; namely, two generations, is ample for cutting off the inheritance lines of the major portion of the most worthless one-tenth of our present population, if the recommended program be consistently followed. It is clearly within the power of the American people and at not too great a cost in money and effort to forestall the continuation of the great mass of defectiveness from which we now suffer. It appears also that this end can be accomplished conservatively, beginning on a small scale and keeping pace with institutional growth and scientific study; and above all, that it can be accomplished in a lawful, just and humane manner without detriment to, but, on the contrary, to the great advancement of, national welfare.

THE RELATION OF PHILANTHROPY AND MEDICINE TO RACE BETTERMENT

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In accepting the invitation to speak before this Conference on the subject of The Relation of Philanthropy and Medicine to Race Betterment, I wish to make it clear that I do so with no special knowledge of medicine or of sociology. But if by Race Betterment is meant in this instance the production of an inherently better race rather than simply the bettering of conditions—if it means biological improvement rather than social improvement—then I

may perhaps avoid the charge of presumption, since neither medical science nor sociology have as yet amassed sufficient data for a very clear understanding of what their biological effects upon the race may be. Consequently the subject may be regarded to a considerable extent in the light of biological analogy, and if such facts as are known fit in with biological theory and deductions in other lines, we may from this gather some assurance that we may apply the reasoning of biology, in its narrower sense, to the destiny of mankind, which is, of course, a cognate field of biology in its broader meaning. For we must not forget that man is still an animal, however much he may specialize socially; and although he may by his superior knowledge abrogate many of the laws which bind his more lowly kin, the bird, the fish, the maggot, or ameba, he cannot hope to escape from the operation of certain of Nature's methods, and one of the most fundamental and tyrannical of these is that of reproduction. The heritage of society is passed in an uninterrupted flow from one generation to the next; but not so the biological inheritance, for between the individual of one generation and that of the next there is a rearrangement, a shuffling of the cards face down, leading to an indefiniteness of results which has long made this problem one of the most difficult of biological questions.

So it is as a biologist that I propose to discuss the question before us, and I believe you will agree that until we have enough facts to enable us to see definitely what medicine and philanthropy are actually doing for the race, we shall have to predict as best we can what they will probably do from our knowledge of general biological laws; and our predictions will have value directly in relation to the correctness and extent of our knowledge of these laws. This becomes at once apparent when we consider the diametrically opposed attitudes of certain biologists, sociologists, and social reformers. One believes that the human race already possesses the potential factors for a richer and fuller life, that this more or less latent potentiality is rather universally distributed, at least within certain group limits,* and all that is needed is a better environment to bring it out. Such maintain that biological evolution has largely stopped in the case of civilized man, and that social evolution, the evolution of the environment, has completely taken its place. Thus Smith, in his "Social Pathology," asserts that while "Charles Darwin may learn important lessons from pigeons and pigs, and a brood of lesser men may talk about human marriage in

* See for example Smith, S. G., "Social Pathology," New York, 1911, section on Eugenics, especially pp. 308 and 309.

the terms of the stock farm, . . . the men of our generation who are studying the problems at close range will more and more discuss them in terms of social psychology.* Another holds that evolution and selection, or evolution by selection, is in effect as always, that the potentialities of individuals differ, and that they develop differentially according to this inherited potentiality and to the limiting influence of the environment. Furthermore, that such individuals as are able to survive the environment and to produce offspring, bequeath to their successors only that which they themselves inherently possess. Or still others, while believing that natural selection is biologically operative, attribute to the environment an ameliorating effect upon the germ-plasm, which means the "inheritance of acquired characters." When men differ to this extent in their interpretation of natural laws, is it surprising that they fail to agree on specific means for race betterment?

At first thought it might seem odd that philanthropy and medicine should be classed together in a discussion of this nature. The former draws upon the resources of the individual, or of the state, if we use the somewhat broader word charities, while the latter is ordinarily a source of income and livelihood to the individual practicing it. In this sense the same might be said of agriculture or manufacture. But medicine and philanthropy have this in common—the one tends to relieve the want, the other the suffering—and both often to prolong the life of the recipient.† And for this last reason they are both of the same immediate eugenic importance. I shall therefore treat of them together in general, discussing specific instances from one or the other, as the case may be.

Almsgiving and charity are as old as history, and it is generally conceded that these give advantages to the biologically and sociologically unfit which enable them to live longer and to propagate more than they normally would. But with one or two exceptions, until recently no thought was given, so far as we know, to the possible influence upon the race. Nevertheless, to quote Warner,‡ "Plato, more than two thousand years ago, warned his countrymen of the degradation in store for any nation which perpetuated the unfit by allowing its citizens to breed from enervated stock; and

* I. c., p. 304.

† "The most obvious result of charity as a selective force has been to lengthen the lives of the individuals cared for." Warner, A. G., "American Charities," New York, 1908, p. 23.

‡ "American Charities," 1908, p. 20. See also, Pearson, K., "The Scope and Importance to the State of the Science of National Eugenics," *Eugenics Lab. Lect. Series*, I, 1909, pp. 23, 24.

he sketched for them an imaginary republic in which no consideration of inheritance, of family ties, or of pity was permitted to stand in the way of the elimination of the weak and the perfection of the race." With the rise of the study of economics these questions often came to the fore, and then the whole matter was given a new turn by the revolutionary ideas of Natural Selection which permeated so many fields after Darwin's publication of the "Origin of Species." Biologists and others were not slow to apply the new ideas to man's racial development, and from this time really dates the period of active discussion, and often violent disagreement, on the relation of social advance to race improvement or degradation. As social reformers were concerned with bettering the environment, a work which could often be seen to produce immediate and marked results in adding to the health and material comfort of the populace as a whole, the gradual, almost complete acceptance by biologists of Weismann's doctrines as to the non-inheritability of environmentally produced modifications naturally led to a widening of the breach between those who placed their faith in social measures and those who foresaw the direful effects of what they believed to be the increasingly disproportionate ratio of defective racial germ-plasm. The social reformer was accused of being short-sighted, like a mariner driving his ship ahead because the wind is fair and the weather looks pleasant, but utterly regardless of hidden shoals. Or he might be likened to the unscientific farmer who, because a particular crop is profitable, grows it year after year in the same ground without rotation until the land is depleted or "sick" and will no longer produce. Or again, like the capitalist who razes the forests or despoils the earth of minerals with all thought to his present gain, and none for future generations.

On the other hand, those who called attention to the biological consequences of the withdrawal of selection were called "dismal scientists" and alarmists: it was maintained that "the mutilation or destruction of the unfit would make society as a whole increasingly cruel. It would produce a despotism of pseudo-science that would be more crushing to all the gentler virtues of men than any political despotism ever known."*

I trust you will bear with me while I make two or three more quotations illustrating the opposing views set forth above, for I hope later to point out what I consider some of the fallacies of each. The first excerpts are taken from the same author mentioned several times before, and from the same work, "Social Pathology."

* Smith, "Social Pathology." 1911, p. 294.

"Trained in correct habits of life and taught the practice of obedience with proper moral inspirations, there is a reasonable expectation that children will reach the standard of character and conduct maintained by their homes, but this is very far from assuming that moral qualities are directly inherited at birth. There does not seem to be the slightest proof of such a statement. A study of children of the same families reveals that 'black sheep' may come from any home. It was not because of difference in moral strain of parentage that John became a saint and Judas went out and hanged himself. It is time to cease digging up excuses for bad conduct from graveyards, though it still remains true that every living rascal would be quite willing to lay his sins upon 'some dead rascal.'"^{*}

Now again, on the other side, Mudge† first quotes from the Bible, "There is a way that seemeth right unto a man, but the ends thereof are the ways of death," and then applies it to "the social sentiment that lies at the base of so-called 'social reform'" in the following words:

"No doubt it seemeth right to alleviate misery, to feed the hungry, to clothe the naked, to pamper the useless, to preserve the criminal, to propagate the congenitally tuberculous and imbecile. But is it? When we have cast aside the garment of make-believe, by which the well-intentioned, the sentimental, the languidly pathetic, the short-sighted man of medicine, the socialistic place-seeker and others have woven around the stern facts of life, thereby masking the implacable laws of Nature, and when we honestly ask ourselves whether this road, which seems right to us, is in reality a path that leads to national destruction, then I do not think we shall proceed at the reckless pace which marks the present."

"For so long as we do not hold fast to that immutable truth [of heredity], we shall recognize that from the race of civic cripples there is begotten a race likened unto them. Helpless, useless, dangerous, burdensome, and loathsome that they are, I say advisedly, carefully weighing my responsibility, that it is a social crime to do anything which shall encourage and facilitate their propagation. Every day that by the aid of medical science the lives of such are lengthened, and the procreation of their race thus far favored and increased, there is added a burden to the present and a curse to the future. It is facinorous to an extreme degree. It is sapping at the vigor, the health, the happiness, the social morality, and the civic

^{*} Smith, l. c., p. 310.

[†] Mudge, G. P., "Biology, Theology and Medicine in Relation to the State." *London Hospital Gazette*, Vol. 17, No. 8, May, 1911, pp. 189-193.

cleanliness of the nation. A nation of cripples cannot endure. If it sinks not beneath the weight of its own helplessness and misery, it cannot escape destruction at the hands of a more virile people. Every medical enactment or sentiment which tends to the preservation of such people, also contributes to the undoing of the nation."

"The medical inspection and treatment of school children; their free-feeding and free-clothing; their dental inspection and treatment; the recent puerile suggestion of a medical officer of health to compel certain people in a London borough to open their windows for two hours a day, and to wash their floors once a week, under a penalty of five pounds, are all delusions. In not one single tooth, nor in a muscle twitch, nor in the ionic equilibration of one twig of a single dendron shall we add soundness, or vigor or mental capacity to our national stock by such means." "Medically inspect the earthworms in our gardens if we like, but earthworms they will be to the end of time."

It has been my purpose in giving these rather lengthy quotations to indicate the extreme positions taken by advocates on the two sides of the question we have under discussion. And I assure you that the rhetorical extravagances of the one are certainly no more extreme than the bizarre ideas of heredity presented by the other. The author quoted first appears furthermore to have an in-born antithesis to methods which offer easy correction. Thus he rejects both eugenics and socialism on the ground that the remedies they propose "seem too cheap and too easy."*

Between the views elaborated above we find intermediate positions taken by a large group both of social workers and of biologists. A few examples may serve to illustrate. Warner, who during his short life was one of the foremost social workers in America, far-sighted and discriminating, though primarily interested in practical charities, clearly recognized the importance of heredity in racial progress. He nevertheless emphasized the value to the race of altruistic sentiments, though he recognized the necessity of prevention of multiplication of the unfit. Thus he says:† "Could we cheaply rid ourselves of incapables and close our hearts to the appeals of distress, we might never have the compulsion put upon us of seeking out the wiser plans, which may eventually give us a more uniformly healthy race. Extermination might be an easy cure for pauperism, but it would be a costly remedy biologically; and if we allow our instincts to compel us to forego the use of it, we may ultimately be driven to preventive measures." He is doubt-

* Smith, "Social Pathology." 1911, pp. 290 and 299.

† *Loc. cit.*, p. 25.

ful, however, as to the efficacy of sterilization, and is inclined to the view which is now gaining wide acceptance that the most efficacious remedy is going to be segregation. He points out that in many of our almshouses there are sometimes inadequate means of separating the sexes, and "the breeding of paupers goes on upon the premises," and even that "formal marriages between almshouse paupers have very frequently received the sanction of both church and state." He concludes his chapter with the following very sane statement:* "Certain it is, that while charity may not cease to shield the children of misfortune, it must, to an ever-increasing extent, reckon with the laws of heredity, and do what it can to check the spreading curse of race deterioration. The desire to prevent suffering must extend to the desire to prevent the suffering of unborn generations."

Among those who have in their treatment of this subject emphasized the importance of the natural selection viewpoint may be mentioned especially Herbert Spencer, Francis Galton, and Karl Pearson, the director of the Galton Laboratory for National Eugenics, though many other names might be mentioned as well. The last named has turned the energies of his laboratory to studying by means of highly developed statistical methods the inheritance of various diatheses, traits and defects, as well as the effects of ameliorative measures. In his Cavendish Lecture for 1912, entitled "Darwinism, Medical Progress, and Eugenics,"† we find his position well set forth. After marshaling the data of his laboratory to prove that "general health is inherited and that the infantile death-rate is selective, he makes the following statement (p. 16):

"But, because I state that the infantile death rate is selective, and assert that it by no means follows that a low infantile death rate will compensate racially for a falling birth rate, why should I be described as a Herod, and those who hold the same views as supporters of the better-dead doctrine? I feel sure that many of you who have, by your skill, helped into the world the cripple, or the child of diseased or deformed parents, must have said to yourselves, when you found it viable, better it had not been born. Many of you, I take it, hold with me the 'better-not-born' doctrine, but the recognition of the fact that the infantile death rate is selective cannot of itself justify the charge that we wish the weakling killed off."

After then giving a number of examples showing conclusively the inheritance of achondroplasia, congenital cataract, deaf-mutism,

* *Loc. cit.*, p. 31.

† Eugenics Lab. Lect. Series, IX, 1912.

general degeneracy, and the like, he sums up so well that I cannot refrain from again quoting. He says: * “. . . These are individual illustrations of what is happening, because the intensive selection of the old days has been suspended. That suspension is partly due to medical progress; you are enabling the deformed to live, the blind to see, the weakling to survive—and it is partly due to the social provision made for these weaklings that the feeble-minded woman goes to the workhouse as a matter of course for her fourth or fifth illegitimate child, while the insane man, overcome by the strain of modern life, is fed up and restored, for a time, to his family and paternity. In our institutions we provide for the deaf-mute, the blind, the cripple, and render it relatively easy for the degenerate to mate and leave their like. In the old days, without these medical benefits and without these social provisions the hand of Nature fell heavily on the unfit. Such were numbered, as they are largely numbered now, among the unemployables; but there were no doctors to enable them to limp through life; no charities to take their offspring or provide for their own necessities. A petty theft meant the gallows, unemployment meant starvation, feeble-mindedness meant persecution and social expulsion; insanity meant confinement with no attempt at treatment. To the honor of the medical profession, to the credit of our social instincts, be it said, we have largely stopped all this. We have held out a helping hand to the weak, but at the same time we have to a large extent suspended the automatic action whereby a race progressed mentally and physically.

“Surely here is an antinomy—a fundamental opposition between medical progress and the science of national eugenics, or race efficiency. Gentlemen, I venture to think it is an antinomy, and will remain one until the nation at large recognizes as a fundamental doctrine the principle that everyone, being born, has the right to live, but the right to live does not in itself convey the right to everyone to reproduce his kind.

“Our social instincts, our common humanity, enforce upon us the conception that each person born has the right to live, yet this right essentially connotes a suspension of the full intensity of natural selection. Darwinism and medical progress are opposed forces, and we shall gain nothing by screening that fact, or, in opposition to ample evidence, asserting that Darwinism has no application to civilized man.”

I have made these quotations frankly and at length because I believe they will show you more faithfully than I could perhaps have done it in my own words the positions held by various stu-

* *Loc. cit.*, pp. 25-27.

dents of race progress and betterment. I believe that any reasonable person must agree with Pearson that in spite of the masking influence of the increasingly complex social heritage which is passed on from generation to generation in our customs, beliefs, books, laws—in fact, in all our increasing knowledge of science and arts—nevertheless, biological inheritance is operating in man now on the same principles that it did when he swung the stone axe, or scuttled through the trees with his simian congeners. The detailed studies of individual lines of inheritance which have in recent years been made along Mendelian lines* leave no doubt of this. Furthermore, this being true, it must be conceded by all thinking persons at all conversant with biological principles that selection plays the same rôle in directing the course of heredity, that is, the surviving line of germ-plasm, that it always has. Note that I say *selection* here rather than *natural selection*, for the latter term is associated in many minds with the crude methods of Nature uninfluenced by sentient forces. Will anyone deny that the animal or plant breeder utilizes the same principles of selection in breeding his cattle or his corn that have in Nature brought about the evolution of one form from another? The difference is that instead of being *natural* selection it is now *conscious* selection on the part of the breeder, and he directs the processes of change, in so far as his art enables him, along the lines which his needs or his fancy direct.

Now as man's mental capacities began to develop, the course of selection shifted increasingly on to these, and they became more and more important as his social relations and capacities grew. I am not prepared to assert that the minds of the highly civilized ancient peoples, such as the Greeks, the Egyptians, or even more remote cultures, might not be capable of assimilating and utilizing to the full the complexities of our present social and political conditions, our inventions and our scientific knowledge—indeed recent Japanese history would be an argument in favor of such a view; but certainly this cannot be said of the more primitive races, and therefore some mental evolution must be postulated from such a condition. To my mind the course of evolution presents a picture somewhat like that of a small stream of water making its way down an almost level but slightly irregular surface. Tongues are sent out this way and that as slight depressions lead here and there, and at times a considerable course may be made more or less consistently; but then a higher obstruction is reached and a new course

* For a summary treatment of these see Davenport, C. B., "Heredity in Relation to Eugenics," New York, 1911.

started, determined by the point of the lowest level. No matter how well one branch has progressed, if another finds a lower spot, it diverts the stream. Just so races and civilizations have arisen and prospered and flourished until others superior in brute strength, in organization, or in equipment in arms, have come in and superseded them.

Until social customs became comparatively highly developed, individual physical prowess was as necessary to existence as among the lower animals. This was in the stage of individualism. With specialization, as particular classes in a community took up certain special tasks, and especially as armies were formed not including the total population, physical selection became relaxed for some of the individuals. These conditions have become more pronounced until modern philanthropy and medical science are bringing them to a point where they can no longer be ignored. Neither the greater diligence in seeking them out nor the fact that they remain in institutions for longer periods will account for the disproportionately increasing number of defectives and criminals in our population. This fact seems demonstrated and one does not merit the epithet of alarmist for pointing it out. And if true, must we not give thought to its remedy? Chatterton-Hill,* in a striking simile, has likened the condition of the social organism under these circumstances to that of a biological organism in which catabolism is exceeding anabolism, resulting in autointoxication, the gradual poisoning of the civic body. Death is the normal process of elimination in the social organism, and we might carry the figure a step further and say that in prolonging the lives of defectives we are tampering with the functioning of the social kidneys!

Just as artful means of preservation superseded purely physical, when the human race developed from the savage, and as the breeder has replaced fortuitous natural selection by conscious selection, so I believe the time is at hand when mankind will find it necessary to substitute some form of *rational* selection for the hit-or-miss, happy-go-lucky way they have drifted along in the past. Exactly what this method shall be I do not think we are in a position at the present time to say. Two chief lines seem open; restrictive and constructive—sometimes called negative and positive eugenics. The quotations which have been made in the earlier part of this discourse show clearly, it seems to me, that the former measures may be adopted under certain conditions without doing violence to the finer instincts of the race, without in any way de-

* Chatterton-Hill, G., "Heredity and Selection in Sociology." London, 1907, p. 260.

stroying or lessening altruism or humanitarianism. In our nation-wide agitation for conservation we are just beginning to realize our duty to future generations. The case is a close parallel; for we are saying that the material benefits of our forests, our minerals, and our water power must be conserved for the benefit of all the people, and not reaped now to enrich a few individuals and to be passed on only to their families. Shall we have less foresight in the heritage of defectives and cripples that we pass on to the next and future generations? Is not the social reformer who does not take this into consideration spending all his thought on bettering the present generation, just as exhausting our national resources might enrich this generation but pauperize the next?

Now, if it is going to be necessary for us to practice some degree of rational selection, we must be sure that it is rational—it must be based upon positive knowledge. What has modern biological research to offer in the way of contribution to such knowledge? In the first place, we can readily see that a large part of the disagreement which has been mentioned is due to difference in opinion as to the influence which the environment may have on the individual and on the offspring. It is the old question of Nature and Nurture. While I am free to admit that in its abstruse aspects this is one of the most difficult questions confronting the biologist, I believe that much unnecessary confusion and needless discussion has resulted from the tendency of writers to exaggerate their views either on the one side or the other, and not to accord the question fair treatment. When I am asked, as often happens, which I consider of greater importance, heredity or environment, I commonly give a Yankee reply by asking in return, Which is of more importance for sustaining life—food or air?

Although we may concede what is the almost universal biological opinion of today, that the effects of environment are not in the crude sense heritable, we must not, nevertheless, lose sight of the fact that the environment is a most important determining factor in evolution and in selection. This may perhaps best be illustrated by an example. Let us suppose two cows, one of which is inherently a low producer, and is incapable of producing any considerable quantity of milk beyond that necessary to raise her calf, the other, on the other hand, has inherited the capacity to produce a large quantity of milk under certain conditions, namely, proper feeding, care, and handling. Now let us first consider these animals under, say, range conditions, where they receive no special care and where they have to hustle for their maintenance. So far as milk production is concerned, they will measure up about the same—each will

produce enough to raise her calf and no more—and very likely the inherently low producer will be at an advantage under these more severe conditions. But now take the two animals and place them in a modern dairy with scientifically prepared rations and the best treatment that modern dairy practice can provide. What is the result? The animal which inherited the capacity to respond to such treatment does respond at once by a sustained increase in the flow of milk; but the other does not. The former was hampered by conditions in the first place, but the latter is now absolutely prevented by her nature from the possibility of a response to the improved conditions. We see therefore that these conditions were necessary to make apparent the differences which existed in the heredity make-up of the two animals. Is not the same true of the human race? It is only by giving opportunity to all that we may know which are capable of profiting by that opportunity. The good environment, then, is necessary for differentiation, and without differentiation how may we hope to make selection?

Two other biological concepts are of importance. These have grown out of recent Mendelian investigations. The first is the idea of hypothetical factors, which are definite heritable units, and upon the presence of one or more of which all the characters of an organism depend. Since the factors behave for the most part independently in inheritance, the problem of handling them in selection becomes an extremely complex one. Where only two factors are concerned, any desired combination as to their presence or absence may be expected in at least one of sixteen individuals in the second generation. But as the number of factors to be dealt with increases, the number of individuals necessary to give all the combinations increases at a most disproportionate rate, as is indicated in the following table, which shows the number of individuals that according to expectation would be necessary to produce at least one individual with each of the possible combinations under the conditions most favorable for bringing them about:

1 factor.....	4 individuals
2 factors.....	16 “
3 “	64 “
4 “	256 “
10 “	1,048,576 “

Certain conditions, such, for example, as certain striking defects or abnormalities, may depend upon the presence or absence of a single factor, and it might be comparatively simple to deal with such cases singly. But the difficulty of dealing with any considerable number, especially in the case of man, where conditions are

very different from those of animal or plant experimentation, may be readily appreciated. It might be possible, by prohibiting by law certain marriages and encouraging others, to breed a race of mankind free from the diathesis toward a particular disease, let us say: but think of the number of diseases alone with which man has to contend and consider again the foregoing table. And then tell me how soon eugenics is going to produce an "ideal race," made to order, as the newspapers would have us believe is its aim.

Such speculations may do for the visionary who likes to speculate what the world may be like a century or twenty centuries hence: but the practical eugenicist is merely trying to determine how what knowledge we have gained to the present may be turned to the best advantage for race improvement as distinguished from individual amelioration. At the present time it would seem that we are in a position to apply certain phases of restrictive eugenics with comparative certainty of results, such, for example, as the cutting off of those definitely defective lines of germinal protoplasm which are beyond hope of hereditary improvement. As to the methods which shall be employed, it is coming, I think, to be generally conceded that permanent segregation, at least during the period of reproductive capacity, is going to prove the most feasible, if not the most effective of restrictive eugenic measures. But we must be certain of whom it is necessary to segregate. The recent advance of knowledge in this line has been considerable, but it is only a beginning, and I must say that it is due more to the work of biologists than of physicians. Experimental breeding of plants and animals has supplied the keys which have unlocked some of the puzzles of human inheritance, but what we need now are more facts, the facts which can be gathered from the hospitals and asylums, from vital statistics and from the case records of practitioners. But these facts must be gathered with a fulness and an accuracy, and with a view to the purpose they are to serve which has not been customary in the past. It is a deplorable fact that comparatively few medical men have very clear ideas of heredity, nor indeed evince much interest in the subject, and few realize its importance. It is easy to see that the surgeon or the physician, engrossed in his daily duties and in the outcome of his individual cases, has little time to give thought to the result of his operation or his cure on the next generation or the future of the race. This attitude was brought forcibly to my mind when reading recently an account and discussion of ovarian transplantation. The article states* that

* Morris, R. T., "Lectures on Appendicitis and Notes on Other Subjects." Third Edition, New York, 1899, p. 180.

“some patients object to the idea of carrying a piece of ovary from another woman, as a child from such a case would have a treble parentage, but there are many women whose uterine adnexa have been removed who grasp at an opportunity for bearing children, and whose minds are much relieved at the thought of the possibility of such a prospect.” I am not necessarily condemning the operation, but I wish to call attention to the fact that apparently the only thought given to heredity was that “there may be legal difficulties involved in inheritance.”

Reverting again to the matter of collecting facts, it is a sad commentary on either the civic mind or our political institutions that it is usually far easier to arouse public opinion and obtain from our legislatures what are often ill-considered and premature laws having eugenic bearing, such as those for sterilization, and the like, than it is to induce these bodies to appropriate funds for the adequate investigation of the facts on which such laws should be founded.

I have not had time in this discourse to touch upon specific diseases, operations, and charitable procedures, and to discuss their relation to the question in hand as I should like to have done. It has no doubt occurred to many of you to ask, however, Suppose we grant the necessity of restricting the reproduction of the obviously unfit, what about operations in other cases, the treatment of endemic and epidemic diseases, and the like? Is removing the appendix or the tonsils or the turbinial bones going to be to the race like the drug habit to the individual—once begun, having to be continued in ever-increasing doses? It may be. It is possible that the popular idea of the predicted “hairless, toothless race” may not be so far from the mark, or at least that this type shall increase in numbers unless sentiment against it becomes so strong as to become a selective factor. I wish merely to point out that the filling and crowning of our teeth is not going to insure better teeth for the next generation any more than wearing a set of false ones would; if selection is eliminated, the individuals of the next generation will have to take their chance of inheriting a better or a worse dental battery than their parents. My point is simply that if the inheritance of the factors concerned were understood, by selection of the parents good teeth could undoubtedly be insured to the next generation. But the question would have to be asked, Would it be worth while? The breeder knows how hard it is to fix a number of characters at one time, and the student of genetics understands why; and while effort was being concentrated on the teeth, other characters would run riot. The difficulties are further magnified by

the fact, greatly emphasized in recent studies, that the way in which a character will be inherited often cannot be determined by its appearance in the individual. This is a fact which has almost completely been overlooked or ignored in the discussions of sociologists. So the conservatively inclined need not be alarmed that practical eugenics will do much more than to eliminate the more obviously unfit for some time to come.

If time permitted, I should like to discuss the question of whether, in the case of certain specific diseases, such, for instance, as tuberculosis, the greater promise for the race lay in selective heredity, or in environmental adjustments, such as prophylactic measures, antitoxins, treatment, and the like. My feeling is that in most of these specific cases the race will find it most expedient to do as now, except in such diseases as denote general physical or mental defect or weakness. Take the case of cancer, for example. Suppose it were found to be definitely inherited, but that medical science could find an easy and early diagnosis and certain cure. Would it not be simpler and easier to cure it as it appeared, even though its incidence should be even larger than now, than to cut off all affected lines of germ-plasm? For certainly the stock that would be eliminated by such measures would be an inestimable loss to the world.

The very specificity of disease, coupled with the difficulty of selecting for a large number of characters at once, and taken in connection with man's present cosmopolitanism, by which all diseases are becoming distributed all over the world within their possible ranges—all these factors make the breeding of a race of mankind immune to all, or even to a large number of diseases, a practical impossibility.

Eugenic selection must, I believe, for a long time be confined to cases of marked defect and weakness. In addition, more study must be given to those influences which may weaken the germ-plasm directly, such as alcohol. And medical science, rather than desisting, must push on, especially in the field of general prophylaxis, but with more thought to succeeding generations and the future of the race than it has given in the past. Philanthropy and charities cannot stop, but they must take more counsel of other sciences, and, like medicine, give more thought to the future.

THE HEALTH CERTIFICATE—A SAFEGUARD AGAINST VICIOUS SELECTION IN MARRIAGE

THE VERY REVEREND WALTER TAYLOR SUMNER, D.D., Dean of the Episcopal Cathedral of Saints Peter and Paul, Chicago, Illinois.

We guard our business with a great deal of care. If a group of men desire to form a corporation, they must secure permission of the legislature. If a man or a group of men desire to carry a municipal burden, they must secure a municipal license. If a man in the city of Chicago and elsewhere in this country desires to carry on only some insignificant street trade, such as the selling of shoe-strings or the pushing of a banana cart, such a man must take a responsible citizen to the city hall to vouch for his responsibility. Now, on the other hand, if this same man desires to get married—and we must agree that this is a very much more serious undertaking—he goes down to the city hall alone and unknown. He may be a degenerate, an epileptic, or the cursed diseases of the social evil may be coursing through his veins. He passes his name through the wicker window with the name of a similar unknown female and they are ready to marry and to propagate their kind and to pass on to succeeding generations, in an increasing geometric ratio, the physical, mental, and moral deficiencies which they may possess.

We are giving much time and attention to the question of environment. We should give much attention to culture. But, after all, is it any wonder, in face of the fact that we safeguard marriage or the selection in marriage by no laws and by no public attention, that we have in our public institutions in these United States today three million abnormal people, costing this nation two hundred million dollars a year for their upkeep and care, and that they are increasing far and beyond in proportion to the increase of the population of this country, large as that increase is? It does not matter very much, with reference to the philosophy of the movement, whether a health certificate before marriage is possible, or desirable, or not. Let us not lose sight of the logic of the need of some safeguard against vicious selection in marriage. When people come to understand existing conditions, there will be no danger but that we shall have legislation. When people come to understand the true state of things, there will be no question about a health certificate being demanded by parents.

Now there are three avenues through which we may approach this subject of a health certificate:

First, through the avenue of those who perform marriage ceremonies—clergymen, justices of the peace, members of the bench.

even our public officials, as the Mayor of Cleveland said yesterday that he officiated even in a marriage ceremony. It does not matter, so far as the philosophical question is concerned, whether we have had one wedding or fifty weddings, or no weddings, at the Cathedral in Chicago, since Easter of 1912 when we took the stand that thereafter we would marry no persons unless they presented a certificate, signed by a reputable physician, that they had not an incurable or communicable disease. What is of importance is this: That since that time over fifty ministerial associations representing nearly every religious body from Maine to California in their membership, about thirty-five hundred of the clergy, have agreed at least to urge, if not downright demand, a health certificate before they will perform a marriage ceremony. National conventions, the Jewish rabbis, have agreed to the same. Various churches and justices of the peace throughout the country have also agreed to the same, so that now the movement is apace among those people who officiate at holy marriage.

The next avenue is through legislation. Legislation is just so effective as it is backed up by public opinion. Public opinion today is not well informed with regard to the conditions and the needs of safeguarding marriage selection. Therefore, we should not be discouraged because various states have not preventive measures, as in this state of Michigan, and the enactments have not been forthcoming. The measures have been defeated. But, even then, sixteen states today have legislation pending and five states have passed legislation since Easter of 1912. There are objections. There is, of course, the question of whether the law is constitutional or not. That is for the lawyers to decide. But public opinion, once informed, will call for legislation which is constitutional, because any legislation is constitutional that is based upon justice and good common sense.

The third avenue is through education. I believe that is the great hope. The greatest agent in education in this country today, with reference to health certificates (and I am not handing a bouquet) is the press, largely the metropolitan press of this country. I have thousands and thousands of clippings, filling five great scrap books, of the articles that have appeared in the public press throughout the country in these last eighteen or twenty months. It is most marvelous that this great instrument to inform and build up public opinion has approached the subject so intelligently and so sympathetically. Fathers and mothers are now giving their attention to the subject; for they realize, as knowledge takes the place of ignorance, that if they are to safeguard the integrity of their

family, they must have some assurance from the man who comes to ask for the daughter's hand that he has not an incurable or a communicable disease. Mothers are learning that they are largely the sufferers from these conditions—conditions in connection with commercialized vice and the social evil; conditions more to be feared than a leprous plague, scattering broadcast insanity, paralysis, sterility, locomotor ataxia, the blinded eyes of little babies, the twisted limbs of deformed children—physical rot and mental decay—afflicting not only the guilty one, but the innocent wife and child in the home with a sickening subtlety. And the young women who are coming to the marriage state are realizing that the lowest conservative estimate of men in this country between the ages of eighteen and twenty-five who have or have had a social-evil disease, is sixty per cent and that eighty per cent of all operations upon womanhood, peculiar to women, are due to the guilty infection of a husband and the wife has never known it. And best of all, boys are learning, as never before, that there is a calling just as high, just as noble, just as holy as the call to motherhood, and that is the call to fatherhood: and that if they are to reach, if they are to qualify when that great duty and privilege and responsibility shall come to them, they must lead such lives in their adolescence and young manhood that there can be absolutely no question with reference to that qualification. The boy can be taught and should be taught, as well as the girl, in the home. The fathers or mothers, or both, who neglect this education are taking upon themselves responsibilities nothing short of criminal. The child does not know these things. Ask any social worker, any physician. Ignorance plays the largest part in the initial delinquency of the child. We raise the question, Shall we teach personal purity in the high schools, to segregate classes? I say, we can. In the last few weeks we have in the city of Chicago overthrown the proposition which was adopted last summer to teach sex hygiene. Perhaps it is just as well for the reason that there is now in the minds of the citizens of Chicago such an uncertainty with regard to the success of the movement that it may be better to give the teaching of sex hygiene or personal purity a short vacation. Then by the end of that time we may have teachers, better trained, to teach the subject. In the meantime the parents of the children will be better informed, and when once knowledge does take the place of ignorance, then there will not be the opposition that today exists. We can afford to wait.

Whether we approach this subject from the standpoint of commercialized vice, or whether we approach the subject from the

standpoint of race betterment, we shall never reach a solution to the conditions which are giving us the broken body and the degenerate mind that we find in the child until we are ready to demand that which women have never demanded and men have never been just enough to concede—the single standard of morality for men and women alike. And in the instance of this, you can take the boy and say to him, “Will you not make this resolution: Some day I expect to marry. I am determined to bring to my wife as pure a life as I expect of her. Somewhere, some girl is keeping herself pure and sweet and clean for me. Cannot I do as much for her?”

I appeal for a greater intelligence with reference to safeguarding the selection in marriage. I appeal for justice to the unborn child. We may nurture, but the physiologist, the physician, the criminologist, the penologist, and the teacher of the young find the great failures today in the fact that the child has not been well born. A desire for righteousness shall take the place of unrighteousness only when boys and men have a finer instinct of chivalry and a more splendid honor for womanhood, and have the conviction that to fight for a woman's honor is indeed the occasion for a valiant fight. Perhaps you read in the March number of the *Cosmopolitan* a poem entitled, “The Price He Paid.” It is the cry that is going up from tens of thousands of boys and men today.

THE PRICE HE PAID

I said I would have my fling,
And do what a young man may;
And I didn't believe a thing
That the parsons have to say.
I didn't believe in a God
That gives us blood like fire,
Then flings us into hell because
We answer the call of desire.

And I said: “Religion is rot,
And the laws of the world are nil;
For the bad man is he who is caught
And cannot foot his bill.
And there is no place called hell;
And heaven is only a truth,
When a man has his way with a maid,
In the fresh keen hour of youth.

“And money can buy us grace,
If it rings on the plate of the church;
And money can neatly erase
Each sign of a sinful smirch.”

For I saw men everywhere,
Hot-footing the road of vice;
And women and preachers smiled on them
As long as they paid the price.

So I had my joy of life:
And I went the pace of the town;
And then I took me a wife,
And started to settle down.
I had gold enough and to spare
For all of the simple joys
That belong with a house and a home
And a brood of girls and boys.

I married a girl with health
And virtue and spotless fame.
I gave in exchange my wealth
And a proud old family name.
And I gave her the love of a heart
Grown sated and sick of sin!
My deal with the devil cleaned up,
And the last bill handed in.

She was going to bring me a child,
And when in labor she cried,
With love and fear I was wild—
But now I wish she had died.
For the son she bore me was blind
And crippled and weak and sore!
And his mother was left a wreck.
Aye, it was so, she settled my score.

I said I must have my fling,
And they knew the path I would go;
Yet no one told me a thing
Of what I needed to know.
Folks talk too much of a soul
From heavenly joys debarred—
And not enough of the babes unborn,
By the sins of their fathers scarred.

—*Ella Wheeler Wilcox.*

Discussion.

Health Certificates in Michigan

MRS. MAUD GLASSNER. Michigan Federation of Women's Clubs. Nashville, Michigan.

I wish to say just a word here in addition to some of the things Dean Sumner has said about health certificates before marriage. My husband stood in the State Legislature of Michigan fighting for this protection for womanhood for three straight years, day in

and day out. We feel that certainly if a health certificate will not protect us, you men must invent something else that will. The moral and educational effect of such a law upon our young people is one of the great things that led us to advocate this measure. We hope to say to our young people, "You shall not marry if you do not live pure lives." But one Senator in the state of Michigan said, "No," so we could not do it. I have sat in this Convention all the way through, and I have heard my sister women blamed for race suicide. I have heard the women blamed for their husband's doings when the husbands won't do a thing they want them to. I have heard women blamed for this, that and the other by the men and by the other women, and I want to stand up and say for my sister women in the United States that there never was a cleaner, brighter body of women in the world than there is in North America today. The opposition to this health certificate law did not come from the women. Not a woman in the state of Michigan ever wrote and asked not to have that law. Women are demanding all over the country for the protection of themselves and for the protection of their children from these diseases that are devastating the population. What chance, I want to ask you, has a girl to marry healthfully under the conditions that we have heard pictured of American civilization today without a health certificate? What chance has she? What chance has any girl when she is brought up to consider marriage as a sacrament, as a holy institution, and then allowed to marry some man, corrupt in mind and body, who has had his fling.

I want just a chance to tell this Convention about Betty. We have heard so much about women not being good mothers. Betty was the finest daughter. She was one of the strongest, brightest, freest girls I ever knew. Today, at forty years of age, Betty stands old, wrinkled, bent and weak and sick. At sixteen years of age, a man came courting Betty who had sowed a plentiful crop of wild oats. Sixteen years after she married, this fellow having run away, I saw her again. She stood on the hillside in the country cemetery. We had taken my mother back there for burial and when I turned from my mother's grave, this figure of an old woman stood in the path before me holding out her hands to me and I said, "Why!" She said, "Maud," and I said, "O Betty, what has life done for you to make you like this?" She was a deathless old hag at thirty-two years of age. Turning to the hillside beside her, she pointed to a row of sticks, and every one marked a tiny grave. There were one, two, three, four, five, six, seven, eight little sticks stuck in the ground. She said, "Here are all my children. Eight times I have

gone down to the gates of death for a little child and I have never held in my arms a living form." What are you going to do about it?

MARRIAGE SELECTION

PROFESSOR ROSWELL H. JOHNSON, University of Pittsburg, Pittsburg, Pa.

The great principle of natural selection still furnishes the chief motive power of evolution, even though nowadays we believe the lines are largely determined by the nature of the variations which appear. Now, in the study of human evolution at least, it becomes necessary to distinguish three distinct kinds of natural selection, for our social agencies affect these three kinds differently. These are lethal selection—that which operates by differential mortality; sexual selection—that which operates by differential success in mating; and fecundal selection—that which operates by differential fecundity. Today it is sexual selection, differential success in mating, that I am to discuss under this title of Marriage Selection. We may call it marriage selection, inasmuch as the extra-marital relations are largely sterile, for one reason or another which we need not here analyze.

Sexual selection in man has one sharp distinction from that in the inferior species. In the latter, because of the larger rôle of instinct and the lesser rôle of social regulation and judgment, nearly all the individuals mate. There are very few unmated females and very few unmated males, except in species having severe male combat, when matelessness is the result of defeat. Where combat prevails, the main result of sexual selection is to cause a disparity of size and strength between the sexes and to accentuate bodily weapons, such as horns, canine teeth, spurs, and the like.

Since the disparity of size and strength between the sexes in man is no greater than that in the anthropoid apes, there is no evidence that male combat played a large rôle in the dawn-man. Indeed, the great reduction in the canine teeth indicates that combat has played a smaller rôle as time has passed, and fortunately so.

Sexual selection in primitive man, as soon as individual combat was reduced, operated very slightly if unaided. Its effectiveness depended largely upon the cooperation of lethal and fecundal selection. Thus, in warfare, the males of the defeated tribes were frequently killed, and the females taken as additional wives. Or, even when all eventually mated, some, who possessed a specially desirable characteristic to a higher degree, were chosen earlier

and thereby had more progeny, or they were chosen by the superior, whose progeny would in some cases inherit a greater viability.

It is very probable that many of our esthetic attributes, such as musical and artistic ability, which are difficult to account for by lethal selection, have been produced by sexual selection.

In modern man we have the contrast of an unprecedented number of unmated individuals. This condition has developed with the growth of romantic love, which is the exclusive preference for a very long period for one mate over all others. As Finck has pointed out, this has been very much accentuated from the time of Petrarch on.

Now if these unmated individuals differ from the others in any important respect, sexual selection is very important. Or if we can alter the percentage of the unmated in different classes, sexual selection may become very potent.

Figure 1 shows how the innately mediocre individuals are most numerous and how both the markedly superior and inferior by nature are each much less common. I mean by superior those who are more individually happy and socially useful than the average. The mental characteristics, at least in such a category, are too complex for a unit character treatment, even if such superiority is built up by unit characters.

We must consider, then, what causes the failure to mate and what is the quality of each of these classes. Taking the men, we have:

1. The cultivation of a taste for sexual variety and a consequent unwillingness to submit to the restraints of marriage.
2. Infection by venereal disease.
3. Pessimism in regard to women from such experiences.
4. Deficiency in normal sexual feeling or perversion.
5. Deficiency of one kind or another, causing difficulty in getting an acceptable mate.

The persons in these five groups are, as a class, inferior. This inferiority is in part innate and in part the result of bad environment. But since innate inferiority is so frequently a large factor, we can conclude that the group as a whole will average innately inferior.

There are two other classes largely superior by nature:

6. Those who seek some other end so ardently that they will not make the necessary sacrifice in money and freedom to marry.
7. Those whose likelihood of early marriage is reduced by a prolonged education and apprenticeship.

We see that the action of sexual selection in regard to males,

while favorable in some ways, is in great need of improvement. Such efforts may be made along three lines:

1. Try to lead all young men to avoid a loose sexual life and venereal disease. The effects of a general effort will be heeded more by the superior than by the inferior.

2. Hold up the rôle of husband and father as particularly honorable, and proclaim its shirking, without adequate cause, as dishonorable. For a man to say he has never met a girl whom he can love, simply means he has not diligently sought one, or else he has a deficient emotional equipment, for there are many, surprisingly many, estimable, attractive, unmarried women.

3. Cease prolonging the educational period past the early twenties. The professional schools in our country are steadily delaying the age of graduation and thereby that of marriage. They formerly asked for high school training, and many still ask no more. But other schools have demanded more and more, till now one requires a bachelor's degree for entrance. The situation is made still more serious for medical students by the frequent post-graduate hospital practice without pay. It is time to call a halt. This cannot go on without serious loss to the race. Our young men should not have their marriage postponed by external circumstances past twenty-five years. This means we must allow students to specialize earlier. If there is need of limiting the number of candidates let us have competitive entrance examinations. We *must* have our superior men marrying earlier, even at some cost to their early efficiency. The high efficiency of any profession can be more safely kept up by demanding a minimum amount of continuation work in afternoon, or evening or seasonal classes, laboratories or clinics. No more graduate fellowships should be established till those now existing carry a stipend adequate for marriage.

Now we come to the consideration of sexual selection in women. Are the unmated inferior?

We do find some inferior individual groups, such as those unattractive in manner and appearance, wholly as the result of poor health. This may be either inherited or else the result of ignorance, frequently due to mental inferiority. Others are unattractive because of the absence of all sex feeling, or of some physical abnormality. And still others are unmated because they have fallen into ways of loose living, some as the direct result of innate defects, such as feeble-mindedness, unusual susceptibility to suggestion or sexual hyperesthesia.

On the other hand, when we have passed these groups of women, we find large groups that are distinctly superior. Some of these

have had their chance of marriage reduced by going to women's colleges, others through engaging in pre-eminently feminine occupations, such as the teaching of children, yielding meager opportunities to associate with men, or living in those cities that have an undue proportion of women. Then there are, besides these, superior women who, because they are brought up in families without brothers or brothers' friends, are so unnaturally shy that they are unable to become friendly with men, however much they may care to. There are still others who repel men by a manner of extreme self-repression and coldness, sometimes the result of parents' or teachers' overzealous efforts to inculcate modesty and reserve, things valuable in due degree, but bad in excess.

In order to present to you the seriousness of the situation, I will present the results of a study made by my student, Miss Helen D. Murphey. This deals with the graduates of Washington Seminary in Washington, Penn., a secondary school for women founded in 1837, greatly antedating the first woman's college, which opened in 1865. You will see in Fig. 2 that the marriage rate has declined. The drop in the '60's is due to the Civil War. You will also notice that the percentage engaged in occupations other than housewifery has increased progressively. It is not clear which of these occurrences is causal.

The ominousness of this declining marriage rate is aggravated by the low birth-rate which these same women contribute, as shown in Fig. 3. Now combining these results to get the birth rate of the graduates as a whole, we have this (Fig. 4) discouraging result. Notice that only the earliest classes, with one or two exceptions, have enough children to reproduce the class. And this is not a college, and is not in New England, but in the same small city as Washington and Jefferson College, a much larger institution for men. If, then, under these favorable conditions, the marriage rate is so low, and marriage is so late (Fig. 5), we may infer that the low rate is widespread.

Let us now examine some of the results thus far attained in a study of Wellesley College data, made by my student, Miss Bertha Stutzmann (Table 6). We see from this that the recent Wellesley alumnae have a very low marriage and birth rate. There is only one mitigating circumstance, that these women have married superior men, as shown in Miss Smith's ('00) study.

That college women are superior to the average woman is a safe inference. However, we may use another criterion of superiority. Eminence may be measured by space in collective biographies.

Table 7 shows such a correlation with a very late age at marriage and a consequently decreased racial contribution.

The objection has been made that eugenists are too much disturbed by this late marriage of superior women. To postpone marriage seriously reduces the likelihood of marriage. The critic says that late-marrying women will have their children closer together and so eventually have as many. But the facts as collected by Miss Smith do not bear this out. Furthermore, the late marriage of superior persons cuts down their contribution to the race stream, because the years of fertility left to the wife are reduced (now that the average of human life is prolonged, the climacteric seems to come on startlingly soon to many of these late married women). Again, late marriages are relatively ineffective, because of the lengthened generations. Suppose a generation to be 25 years or $33\frac{1}{3}$ years respectively in two different stocks, and that all persons marry and each couple have four surviving children or two per parent. The effect (Fig. 8) is to cause the 25-year stock to constitute two-thirds of the population at the end of a century.

Is it not imperative that something be done to raise the marriage rate of all superior women? To this end we must dissuade superior men from shirking marriage. If these superior men would keep their sex records clean, they would not suffer the severe depreciation which they do sustain in the eyes of superior women. But let us not take that ambiguous shibboleth, "the single standard of morals," to mean a general sex strike, that is, ostracizing every man who has had illicit sex experience. This is too extreme. Early offenses, where infection did not occur or was positively cured, though properly considered a severe drawback, should not be perpetually condemning when followed by reform and real love. Such an unforgiving and uncompromising position cannot be approved because it leads a very large number of women into celibate lives, with a serious dysgenesisic result. In addition it increases the temptations of the men left unmarried. These extremists must remember that it is hard to get men to marry at even a normal rate, as Professor Cattell has shown this morning, and which I need not therefore demonstrate. The threat of a sex strike will never enforce chastity. Slow and hard as it is, we must content ourselves to build up a sounder moral basis by better attested methods.

Inappreciation of wifehood and motherhood by misguided feminists must cease, and greater honor and appreciation must be meted out to mothers, in order to more than compensate for the recognition that women earn in rival occupations. Women should properly be permitted to do any work they wish, not incompatible

with their well-being; but *greater* honor and esteem is due those who have not shirked the paramount function and responsibilities of motherhood.

While waiting for separate colleges to become co-educational, as they eventually will, their present dysgenetic tendency can probably be reduced by the gradual introduction of men teachers into women's colleges, since women professors tend to foster celibate career-hunting, which, attractive as it is to many young women at first, in most cases is eventually unsatisfying. Furthermore, the introduction of courses dealing with the home and the child would give college women increased interest in and eagerness for that noblest profession of home-making and motherhood.

Let us not err in our efforts to teach chastity by making sex appear an evil thing. This is a terrible mistake and all too common. One of my students, referring to a widely read sex book for young men, said one would infer from it that all married men suffer a serious sacrifice in health. I am confident that much of the celibacy of women may be blamed to ill-balanced mothers and others who, in word or attitude, build up an impression that sex is indecent and bestial, and engender a general, damaging suspicion of men. It is necessary to keep our heads level in the sex ethics campaign. The venereal diseases will probably, if we can continue our present progress in treatment and prophylaxis, be brought under control in the course of a century, while the problem of differential mating and the fecundity of the superior stocks will be with us as long as the race lasts, which we may expect to be tens of millions of years. Let us not present too luridly, by drama, novel, or magazine stories, dramatic and highly-colored individual sex histories. These often impress an abnormal situation on sensitive girls so strongly that aversion to marriage or sex antagonism is sometimes aroused. The facts should be presented in a more dispassionate, scientific, proportioned, and psychologically sound way—not by cynics, but by competent, experienced, sweet-minded persons.

Eligible young people should have their circle of acquaintances broadened. Co-education (Tables 9 and 10), I believe, is one of the best means, as associating the best groups. But many other means should be encouraged. We have in this a further justification of cards, dancing and theaters. That these may sometimes be pursued intemperately need not condemn them universally. These and other social devices extend the range of acquaintance, and also give the necessary time for mutual estimates and friendships. Others besides parents should feel some obligation to afford these social opportunities to young people. Surfeit for some indi-

viduals and dearth for others call for curtailment here and encouragement there.

I now pass to the consideration of the objection so frequently heard that the selection of mates in man cannot possibly be improved, because it is wholly a personal and capricious thing. But the objectors on this score ignore the fact that three mental stages are normally passed thru in this mate-choosing process. They fall into error by concentrating attention on the last, most obvious, emotional, "love-is-blind" stage. The first involves the broad determination of our associates. The second is the narrowing of choice to those whom we specially admire and elect as friends. The last is the actual "falling in love."

One of the chief factors in this first stage is the structure of the social unit to which we belong. How frequently matings are determined by the school, church, or neighborhood! Then there is another group composed of our parents' chosen friends, with whose children we are naturally thrown. The mother who sends her girl to the university rather than into the *thé dansant* set, determines largely the type of her daughter's fiancé, not only because her associates are different in the two cases, but because the girl's ideals will be differently built up. The young man who goes with fast girls is indirectly determining the kind of girl he will marry, if indeed, he is not thereby led to abandon marriage. During this second stage of more intensive associations or friendships, there is clear-minded discrimination, before the emotions have become imperious. I believe that the period of mere friendliness is longer in most cases than the period of conscious loving before marriage. So we see the choice of a mate is not ordinarily capricious.

To show you that marriage selection does really operate, I have collected in Table 11 the cases so far observed showing assortative mating. This may be defined as the degree to which like mates with like. This does not have as great a eugenic significance as preferential mating, but the latter has not yet been so well demonstrated. Assortative mating has the value, however, of building up the unusually able brains the world needs. In this Table 1 expresses perfect assortative mating, that is, each degree always mating with the corresponding degree. O expresses random mating. You will notice in the royal families that assortative mating is low because interfered with for state reasons.

My student, Miss Carrie F. Gilmore, has found a preferential mating for facial appearance and class marks, as shown in Fig. 12. Preferential mating is also indicated in the following data re-

garding college women and their non-college sisters, cousins, and friends as collected by Miss M. R. Smith (Table 13).

Marriage selection is under some degree of legal control thru marriage and divorce laws. Those who maintain that mating is wholly capricious forget the very considerable extent to which social control has made itself effective in the past. Indeed, many of the prohibitions are now relaxed, such as the notorious deceased wife's sister provision. It is obvious that marriage laws should make as few restrictions as possible without strong reason. A minimum age and a high degree of consanguinity have been an almost universal matter for legislation or enforced custom. And let it be noted, their object has been primarily eugenic. A relationship closer than that of cousin should constitute a prohibition. Yet cousin marriages need not be denied except in the event of that branch of the family common to the cousins in question having individuals with certain specified defects. The suggestion that proposed cousin marriages should be passed upon by a state eugenic board, tho biologically sound, does not seem so from the sociologic standpoint. In case of an adverse decision, there would follow either broken hearts or a liaison, for the hope of a favorable decision would have engendered a strong attachment. Freedom from venereal disease, at least for men, must be attested to by competent physicians by competent tests, the state assuming a share of the financial burden. It does not seem wise, however, to demand freedom from all mental and physical defects, for if the defect is very serious, a surer method must be employed than the withholding of a marriage license. If it is less than very serious and not pernicious, we are not justified in prohibiting marriage, provided it is the earnest intention of the couple not to reproduce. In the event of such a marriage proving fertile, sterilization would prevent a second offense.

Miscegenation of certain races may properly be controlled as far as possible by the refusal of marriage licenses and by public opinion. This will unfortunately result in cases of individual injustice, but is nevertheless racially necessary. The proposition to refer doubtful cases of mixed blood to the state eugenic boards is objectionable, for the same reasons as above.

While society may deny the right to marry only for grave cause, it should be glad to divorce pairs whose progeny are not desirable; this for the reason that in one case society is acting against the will of the two parties. In the second case both the two parties concerned and society profit by the divorce. Divorce is far preferable to separation, since the unoffending party should not be de-

nied the privilege of remarriage, as the race in most cases needs his or her contribution to the next generation. Divorce, it must be remembered, is ordinarily just a legal recognition of a separation that already exists. The time-honored and justifiable grounds of adultery, sterility, impotence, venereal infection, desertion, non-support, and habitual cruelty are no more worthy of legal recognition than the dysgenetic grounds of drunkenness, feeble-mindedness, epilepsy, insanity, or other specified serious mental, moral or physical defects.

For sexual selection to work at its best, it is desirable that the mated persons be as superior as possible to the unmated. Is it not, then, a social blunder to deny divorce to a married pair if one of them at least is inferior? We hear much of a divorce evil, but we have in reality a divorce remedy for the evil of ill-mated pairs.

Dysgenetic marriage we cannot prevent as frequently as would be desirable, because we have not the cooperating will of the couple. When, in such undesirable marriages the individuals come to see their mistake, society should gladly welcome the prompt undoing of the marriage bond.

In closing let me urge you to do all in your power to correct this growing tendency to postpone, if not to abandon, marriage entirely on the part of our superior young people. Hold out marriage as one of the ends of a useful, normal, beautiful life. Help superior young people to meet, and encourage and further their *early* marriage. Give more honor and appreciation to those who have married well and have had adequate children. And in whatever ways you properly can, reduce this appalling percentage of superior celibates who are thus pulling down the quality of the human **race**.

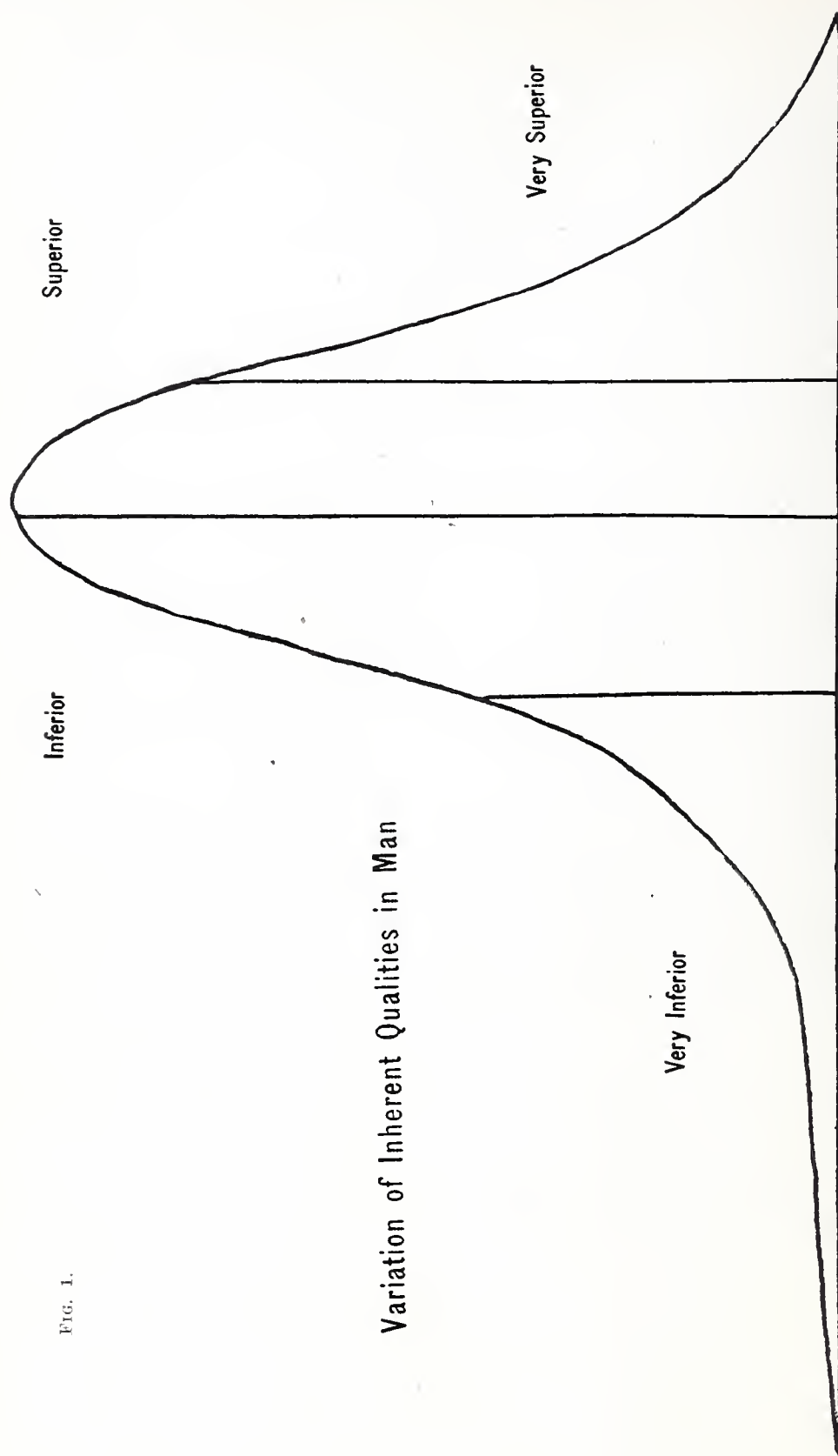
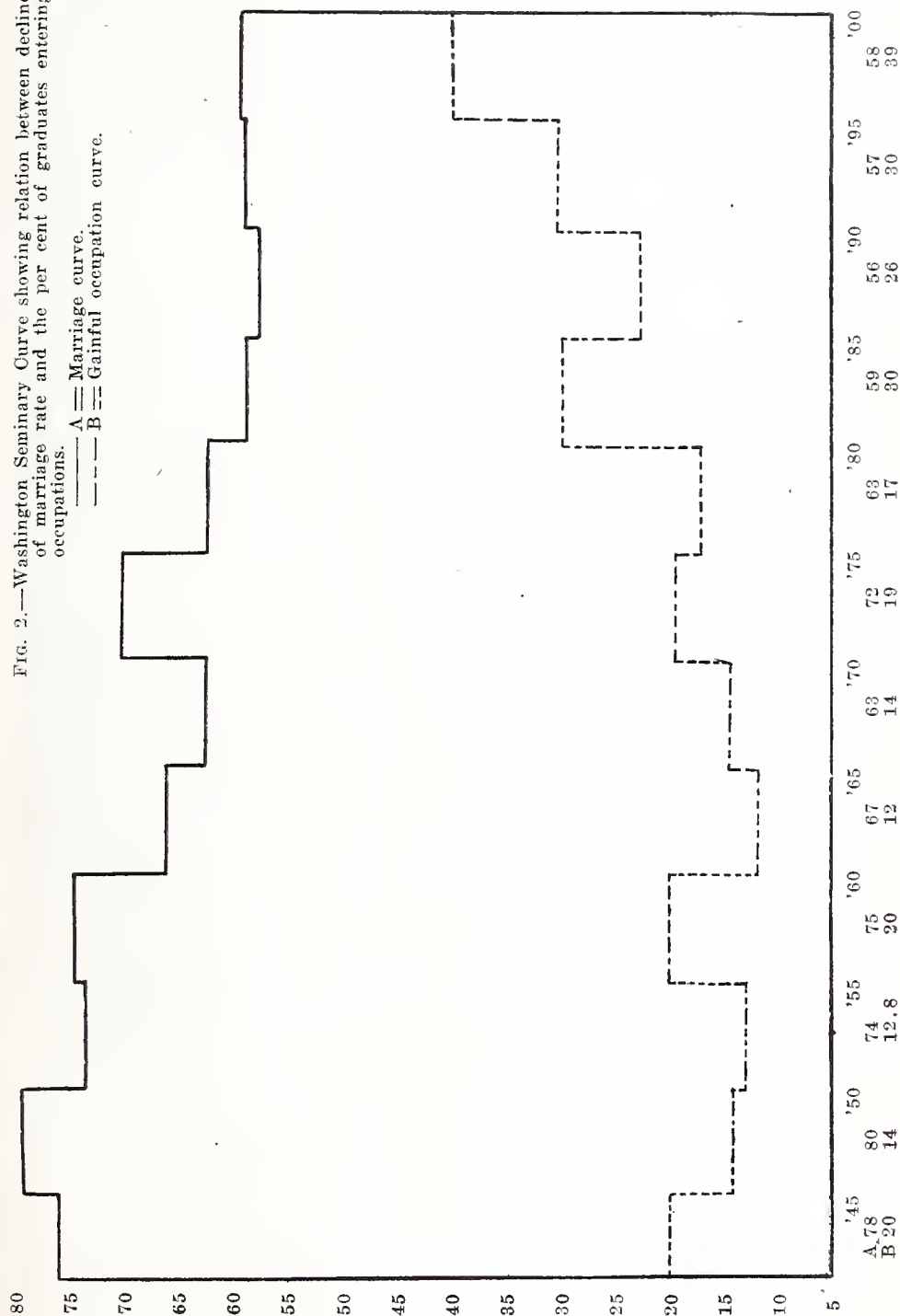


FIG. 2.—Washington Seminary Curve showing relation between decline of marriage rate and the per cent of graduates entering occupations. A == Marriage curve.
--- B == Gainful occupation curve.



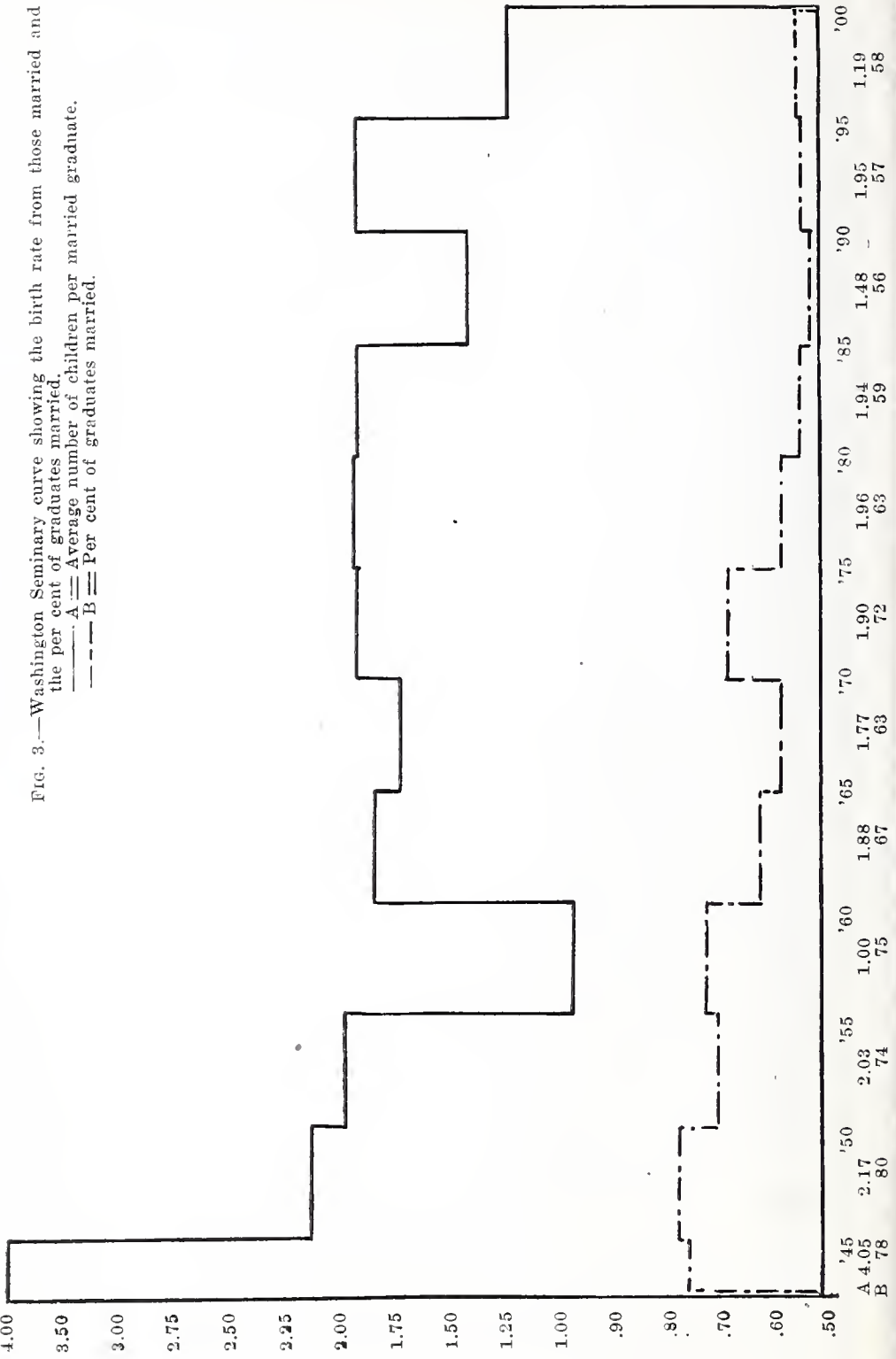


FIG. 4.—Washington Seminary curve showing the decline of offspring in proportion to the number of graduates.

A == Years of graduation.

B == Total number of graduates.

C == Total number of children.

D == Number of children per graduate.

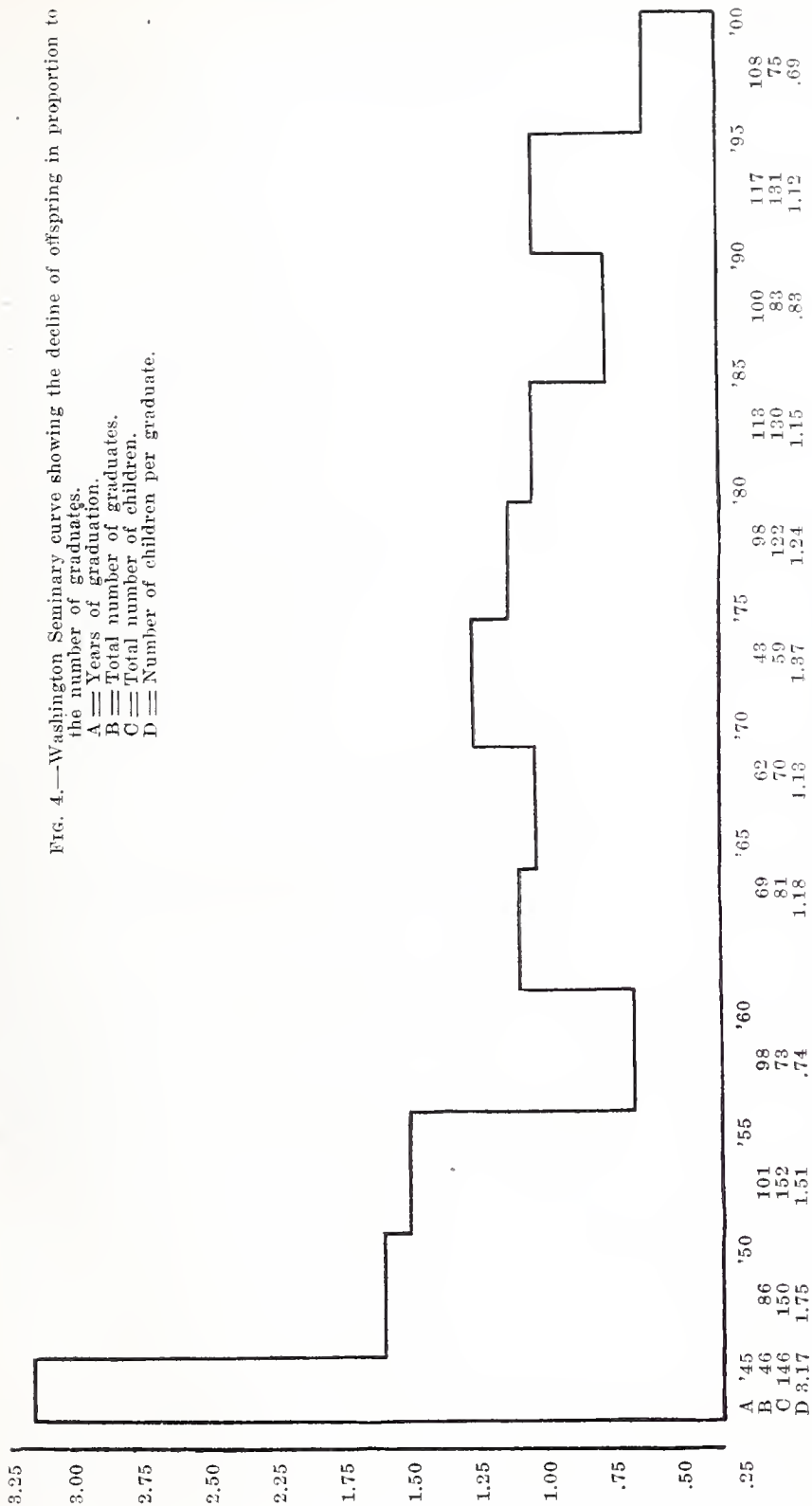


FIG. 5.—Curve showing time between graduation and marriage.

Average age of graduates, nineteen.

Washington Seminary Classes of '41-'00, Status in 1913.

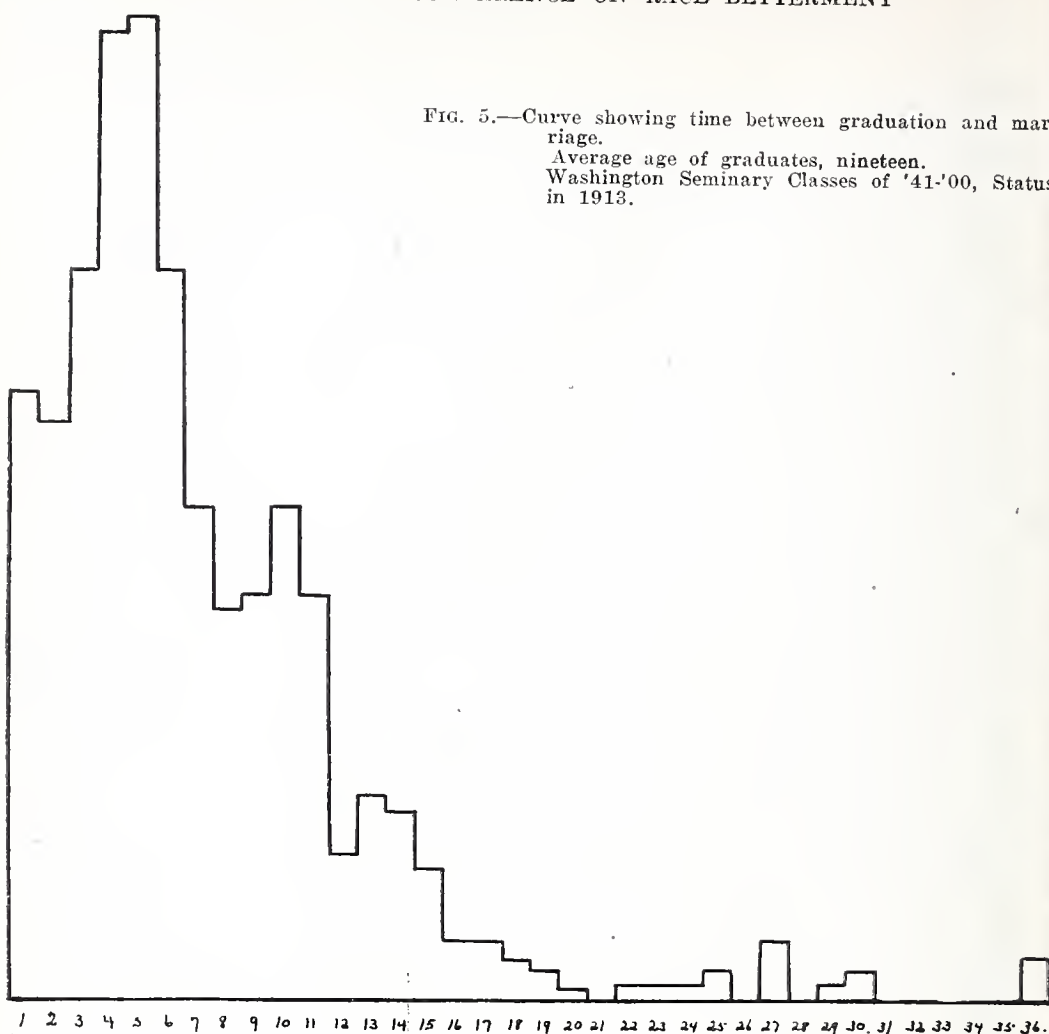


TABLE 6.
WELLESLEY ALUMNAE STATUS IN FALL OF 1912
By BERTHA J. STUTZMANN

Graduations	Per Cent Which Have Married			No. of Children per Student	
	All	Φ. B. K.	NON. Φ. B. K.	Φ. B. K.	NON. Φ. B. K.
1905	32.8	20.0	33.8	.20	.21
1906	38.2	50.0	37.8	.00	.22
1907	30.6	21.0	31.3	.16	.11
1908	29.8	33.3	29.6	.13	.14
1909	16.2	5.8	15.9	.06	.05
1910	7.3	6.2	6.3	.00	.01
1911	6.1	6.2	6.1	.00	.00
1912	1.7	2.0	1.9	.00	.00
Collectively ..	19.1	15.4	19.3	.065	.085

TABLE 7.
AGE AT MARRIAGE OF EMINENT WOMEN
C. S. CASTLE, POP. SCI. MON., JUNE, '13

Century	Av. Age	Range	No. of Cases
12	16.2	8-30	5
13	16.6	12-29	5
14	13.8	6-18	11
15	17.6	13-26	20
16	21.7	12-50	28
17	20.0	13-43	50
18	23.1	13-53	127
19 (Amer. 27.7)	26.2	15-67	189

Generations

Four

Three

One
Century

$16\frac{2}{3}$

$8\frac{1}{3}$

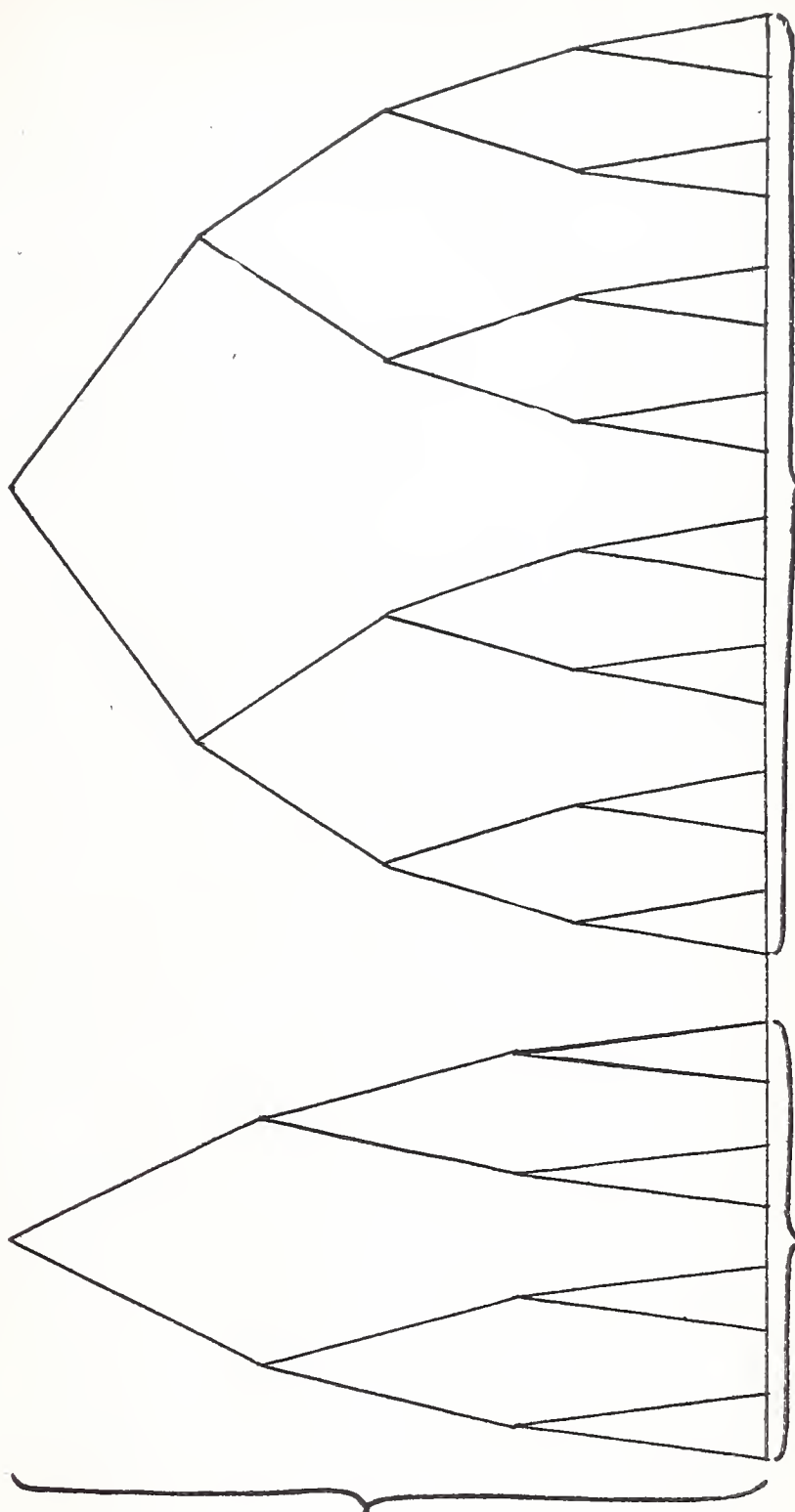


TABLE 9.
THORNDIKE—MARRIAGES AMONG COLLEGE WOMEN AS IN 1901,
OUTLOOK, Oct. 5, '01

Ages	Oberlin Co-ed	Smith, Vassar and Wellesley
40-45	98	
46-50	85	
51-55	80	
56-60	79	
61-65	77	
66-70	75	
71-75	66	
76-80	69	
81-84		55
85-89		45
90-91		35
92-93		29.5
94-95		23.5
96-97		17

45 Per Cent of College Women Marry by 40.

90 Per Cent of All Women Marry by 40.

96 Per Cent of Arkansas Women Marry by 40.

80 Per Cent of Massachusetts Women Marry by 40.

In Massachusetts 30 per cent have married at the age at which college women graduate.

TABLE 10.
SHINN—MARRIAGE RATE OF COLLEGE WOMEN, CENTURY, OCT. '95

	Women Over	Co-ed.	Separate
Assuming	25	38.1	29.6
Graduation	30	49.7	40.1
at	35	53.6	46.6
22	40	56.9	51.8

Marriage Rate from Co-ed. Colleges in { Nor. Atlan. . . 29.0
 { Mid. West . . 33.6

Women in general marry most frequently 20-25 years old.

College women marry most frequently 25-30 years old.

TABLE 11.
ASSORTATIVE MATING

1. = COMPLETE

Trait	Investigator	Index	Probable Error
Stature (English Middle Class)	Pearson-Galton	+ .09	+ .04
Stature	Pearson	+ .2804	+ .0189
Age	Lutz	+ .75	+ .
Cephalic Index	Boss	+ .15	+ .10
Deafness	Schuster	+ .90+	+ .
Normality (Families with Criminals)	Goring	+ .11	+ .
Longevity	Warren et al.	+ .22	+ .02
Intelligence	Elderton et al.	+ .33	+ .
Temper	" "	+ .18	+ .
Excitability	" "	+ .11	+ .
Sympathy	" "	+ .15	+ .
Reserve	" "	+ .27	+ .
Success in Career	" "	+ .48	+ .
Insanity	" "	+ .30	+ .05
Intelligence (Royal)	Woods	+ .08	+ .076

Gilmore, C. F., S. W. State Normal School, Penn., Class of '02. Status in 1912

Marriage Rate = 43.7%

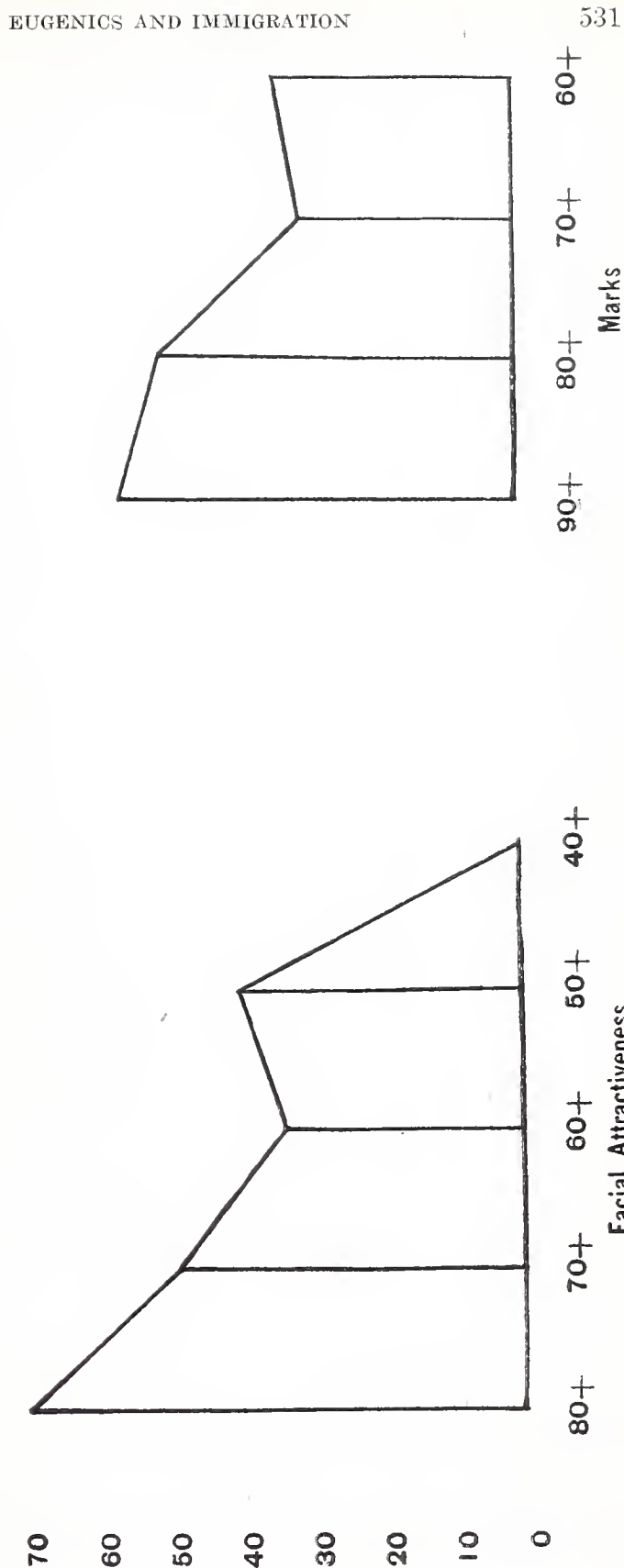


TABLE 12.

SMITH, M. R., '00 COLLEGIATE ALUMNAE DATA

Pub. Amer. Stat. Ass'n, VII, 1900, p. 1.

Married	College	Equivalent Non-College
Under 23 years	8.6	30.1
23 to 32 years	83.2	64.9
33 years and over	8.0	5.0

Age at Marriage	$\left\{ \begin{array}{l} 26.3 \text{ College} \\ 24.2 \text{ Sisters} \\ 24.7 \text{ Cousins} \\ 24.2 \text{ Friends} \end{array} \right\} 24.3$
-----------------------	---

	No. of Children	Per Cent Childless at Time
College	1.65	25.36
Equivalent Non-College	1.875	17.89

Occupations of Husbands, Per Cent	Where Wife is	
	College	Equivalent Non-College
College Teachers	65.9	51.4
Other Teachers	23.3	11.8
Lawyers	15.7	11.2
Physicians	9.0	8.6
Scientists	2.0	0.6
Clergymen	7.0	4.8
Artists	0.9	0.3

Income of Husbands, Per Cent	Where Wife is	
	College	Equivalent Non-College
Less than \$2,000	24.5	36.7
\$2,000 to \$5,000	46.6	44.1
Over \$5,000	27.1	16.9

SOME EFFICIENT CAUSES OF CRIME

PROFESSOR R. B. VON KLEINSMID, Secretary American Association Clinical Criminology, Associate Superintendent and Director Department of Research, Indiana Reformatory, Jeffersonville, Indiana.

A student in the field of eriminology is forced to wonder at times whether there is any other field in which it is possible for him to encounter so great a diversity of opinion or such extreme and opposing views. It is to be said, however, that conclusions heretofore reached have come largely from empirieal sourees alone, rather than from scientife investigations, and that the extreme positions held are those dictated by the angles from which penal and

correction problems have been approached. In general these conclusions may be grouped as four in number.

The first is that, to a greater or less extent, every man is guilty of crimes, his detection, conviction and sentence avoided only because of concomitant circumstances. Were the eye of the law trained as carefully upon him as upon others who are compelled to pay the penalty of their misdeeds, he, too, must suffer the disgrace and the punishment meted out to other offenders. In other words, all have committed and do commit crimes, and it is very largely a matter of chance as to which ones reap the just harvest of their anti-social seed sowing. Out of this theory has grown the belief that by no means are all of our criminals incarcerated in institutions, nor indeed our worst ones, but that there are many, as Tarde points out, who even go so far as to make a profession of the criminal life, operating with a cunning which, with rare exceptions, evades detection and so escapes the penalty.

The second belief on the part of certain of those who give attention to the problem of crime is that all criminals are vicious men, and consequently that it is the duty of society to hunt them out wherever they may be found in order to mete out to them that degree of punishment appointed by legislation for the particular crime committed. Out of the attitude of this faith have grown the high wall, the whipping post and the dungeon, together with all means of discipline and punishment which humiliate and degrade, in the conviction that the vicious must be cowed and made afraid to vent their nefarious temper upon a society strong enough and determined enough to cope with them, and to demand of them an eye for an eye and a tooth for a tooth.

Another view held particularly by those of sociological interests is that transgressors of the law would be very few in number, if any, except for a peculiar and contaminating social environment. Those of this belief hold that Society is to blame directly for the existence of the so-called "criminal class" because she neglects to conduct her economic and social affairs so as to surround all of her members with those influences which make for good alone.

Still a fourth conclusion is to the effect that all criminals are defectives and that no man of normal mental and physical status commits a crime. On the grounds of this belief there have sprung up among us, in the last few years, a number of serious and, more recently, organized attempts to investigate the field of crime for the purpose of determining the degree of abnormality of those who have been convicted and incarcerated.

While the truth is not to be found exclusively in the theory held

by any one of these particular groups, it is not at all unlikely that there is a considerable element of soundness in the arguments of all; in fact, may it not be the case when investigations will have continued for a greater length of time and a more exhaustive study will have contributed more generously to the science of criminology, that it will be discovered that there is a large element of identity in the theories advanced and that these various conclusions are not antagonistic to so great a degree as supposed. Until quite recently the science of criminology was regarded as a legal science, exclusively. Now there are indications that there are many who believe it to be purely a social science. On the contrary, if there be a science of criminology (which some deny), there are those who insist that it has its origin in the sciences of medicine and psychology. The legal science emphasizes the responsibility of the present criminal; the social science, the responsibility of society from which he came; the medico-psychological science, the responsibility not more of the individual criminal than of his ancestors.

May it not be, too, that these different positions have come about only because of varying approaches to the same truth. If we grant that the individual offender is vicious and should be punished according to the law, we still have to account for the fact that this man is vicious and some other members of society are not. If we grant that the environment from which he came was conducive to criminal activity, we still have to account for the fact that many others from the same environment do not become offenders. Grant a vicious attitude in his case and carelessness and neglect on the part of society to create a proper environment for him, and we are confronted with the fact that it was this particular individual who committed the crime who doubtless carries within himself the cause of his misdeeds. However, just as surely as we discover from a clinical study of the individual that the probable cause of his own downfall rests in his constitutional inferiority, we shall find it necessary to lay the blame for his condition in large part at the door of short-sighted society and its institutions. From the standpoint, then, of the clinical research laboratory, let us see what situation presents itself.

One has not labored long among those convicted of crime before he is strongly impressed with the fact that he is dealing with beings of retrograde type—beings who fall appreciably below the generally recognized standard of normality, and who, in a very large percentage of cases, bear about in their bodies the marks of this degeneracy. In this matter, however, one must needs exercise the greatest care to avoid the common error of concluding that the

presence of one or more characteristics, generally accepted as stigmata of degeneracy, is proof positive that the subject is subnormal. The Darwin ear, the Morel ear, or the ear marked with the entire absence of the lobulus, the malformed palate, polydactylism or hypertrichosis—any of these may be found in a particular individual in whom the closest analysis will fail to find any basis for a classification below the normal; and yet the number of these stigmata and their various combinations so frequently found among those convicted is sufficient to cause their presence to be regarded as a usual accompaniment of criminal activity. Asymmetry in the face, microcephaly, macrocephaly, dental deformities, strabismus, microphthalmia, pigmentary retinitis, albinism, syndactylism, misplaced and malformed limbs, flat feet, hypospadias and hermaphrodisism—these and many other signs of degeneracy are constantly met with.

We do not seek to establish a causative relation here, but merely to observe the accompaniment of stigmata with crime. This of itself is of the utmost importance. On the other hand, so frequent and so serious are the various physical and physiological abnormalities and defects as to challenge our earnest effort to discover this closer relationship. Phimosis, enlarged tonsils, adenoids, bad teeth, defective vision, poorly developed chest, stooping shoulders, pulmonary lesions, valvular heart lesions and a serious nervous condition brought on by eye trouble of one sort or another; “a subnormal temperature, associated with an accelerated pulse and respiration,” as noted by Doctor Sleyster; “perversions of the sexual instinct, uncontrollable desire for liquors, migraine, disorders of the nervous system, insensibility to pain, defects of speech and reduced physiological tension,” as pointed out by Doctor Bowers; impotency and sterility—while by no means is this a list to be accepted *in toto* as naming positive evidences of degeneracy, all of these conditions are bound to assert themselves among either the primary or the secondary causes of crime.

From the philosophical standpoint it may be that we are not ready to admit of anything more than a mere parallelism between mind and matter, yet it must be admitted that a seriously defective body could not express rightly a mind of even supernormal capabilities. “Aye, there’s the rub.” As though not sufficiently afflicted with physical and physiological defects, the criminal class are lacking pathetically in mental ability, and it is in an investigation along this line that, in my thinking, we arrive at the real, fundamental, efficient cause of the greater proportion of crime.

It has been recognized for some time by those who have had to

do in any intimate capacity with the criminal class that, as a whole, they are of a low mental order, and yet only within the last two years have a sufficient number of laboratories been operating to furnish such data, as would support a rather wide-spread belief, by the results of scientific investigation. In this work, however, there is much yet to be desired. The tests themselves applied in the various clinics are to be more thoroughly tested, corrected and adapted through a longer period of time and with a greater number of subjects. Too few scientists well trained for the work are in the field: and there is lacking at present a sufficiently strong public sentiment to demand a breaking away from tradition in the handling of law violators, and to insist upon the adoption of methods prescribed by the scientific diagnosis of the case. Nevertheless, the returns to date are indicative, and of very valuable significance. The New York State Reformatory at Bedford Hills reports that thirty-seven per cent of its inmates are defective. Dr. Frank L. Christian, of the Reformatory at Elmira, reports forty-two per cent defective. Results of our own laboratory work in the Indiana State Reformatory at Jeffersonville show quite fifty per cent to be subnormal. Returns from reliable sources at work among juvenile delinquents show a percentage as high or higher. There is little question that when terminology and definition, standards and methods of procedure are agreed upon among the various laboratories, the variation of results will fall well within a reasonably small margin of difference. All of this suggests that in the past we have disregarded quite entirely the peculiar conditions of what likely will prove to be at least one-half of the population of our penal and correctional institutions. This situation belies the very purpose for which these institutions are founded and maintained. Moreover, were this condition of these offenders known before trial, conviction and sentence, it is quite certain that the necessity of a different disposition of the cases would have been recognized.

The range and degree of defectiveness afford an interesting study. We have those of positive psychosis—the insane, including alcoholics, drug fiends, epileptics and feeble-minded imbeciles, morons, and those of but slight subnormality. As a class, of course, all of these reveal to the institution clinician a long list of symptoms and reactions, which would have led an alienist at once under any circumstances and surroundings to a correct diagnosis of their condition. While this group, representing approximately fifty per cent of the population of our prisons and reformatories, is disposed of comparatively easily, the remaining inmates, sharing with the subnormal many of the mental

and psychic stigmata peculiar to the criminal class, form a group which furnish a problem of the greatest complexity—anomalies of intellect. Emotion and will are everywhere presenting themselves for analysis. Dr. Harold W. Wright, in a recent number of the *Journal of the American Medical Association*, calls attention to the fact that all offenders are characterized by one or more of the following attributes: "exaggerated suggestibility; exaggerated egotism; emotional instability; a lack of altruistic or unselfish sense; a lack of the power of sustained energy—that is, abnormal nervous fatigue; a tendency to the easy disintegration of consciousness, which permits the brutal or inferior qualities of the subconscious mind easily to become dominant when temptation occurs, and to be ungoverned by the critical quality of the conscious mind; even when the critical function is sufficiently aroused, the power of direction by the will is in abeyance." The offender is marked, too, by instability and eccentricity, is given to self-pity, moroseness, fault-finding and hatred, and is, therefore, resentful and retaliative; he is lacking in the ethical sense and consequently is presumptuous; he is deplorably deficient in judgment. All or any of these characteristics may be possessed in such a degree as to make it practically impossible for the unfortunate so to deport himself as to satisfy the conditions of good citizenship and healthy social relationships.

Responsibility for crime in the manifestly subnormal is quite out of the question. These will always be mere children and require a guardianship. The perpetuity of their kind among us is quite entirely a matter of eugenics. But who shall say that the majority of those not classified by present-day tests as defectives would not be able to find factual defense of their crimes in their own infirmities? Indeed, there are those who choose to call them "borderland cases," believing that, as all feeble-minded persons are potential criminals, so large numbers, at least, of those criminals usually regarded as normal, require only a peculiar series and setting of stimuli to reveal such serious defects as to prove the existence of positive subnormality, and often clear-cut psychoses.

If asked the question, "Why did you commit the crime for which you are paying the penalty?" and pushed for an answer beyond that born of the memory of the mere pleasure or gratification in the reward of the act, many must honestly answer, "I really don't know. I guess I couldn't help it." Either some instinctive tendency of low order, undeveloped and uncontrolled, is pushing on the unfortunate individual to criminal reaction, or some specific mental function too weak to do its office work or perverted in the

nature of its activity compelled an inability to resist temptation when it offered. Take a case or two in point:

North (4059) is a habitual criminal, a native of the state of Kentucky, whose mother committed suicide at the age of thirty-nine. For some time previously she had been a nervous wreck, and had been separated from her husband for two years. The son never saw or heard of his father after the separation, at which time he was seven years of age. After the death of his mother he fell into the hands of an aunt and attended public school more or less regularly. He failed of promotion twice, because of lack of attention to his work, and finally left school at the seventh grade. His associates were bad. He drank moderately, smoked cigarettes, and early suffered venereal diseases. His first arrest was at the instance of his aunt, who, no longer able to control him, hoped by this means to keep him off the streets at night. His second arrest was for petit larceny. He took money from the cash drawer of a pool room at night. He next broke into a store with others, securing knives and revolvers. Again with companions he attempted to burglarize for the purpose of securing money with which to secure a room at the hotel for immoral purposes. The crime for which he was sentenced to the Reformatory consisted of the theft of a motorcycle.

His physical condition at this time is fairly good. He is small in stature, but fairly well developed and not unattractive in appearance. He is not lacking in general intelligence. The Binet test classifies him adult, while he grades of high order in information and other tests. In general, however, there is revealed an unsettled condition of mind. The nervous status of his mother, probably before his birth and during his early childhood, her consequent neglect of him and her suicide—all must have served to react upon him in such a way as to impress him for life with a lack of normal nervous organization and to stamp his subconscious mind with a character conducive to instability and consequent immorality. The correctives of judgment have never been furnished. The easiest way out is, for him, the best way.

Some worthy ideals of boyhood may have prevented criminal activity earlier in life, but after the first offense relieved the tension, others, all of the same nature, followed with quick succession. He is of the type that seeks pleasure in the activities suggested by the complex of emotion, as completely regardless of the intellect as if it did not exist. When once his action is begun, the power of inhibition is paralyzed.

An example of the born criminal is found in Eastman (4052), about twenty-one years of age, now serving a sentence of from two

to fourteen years for assault and battery with intent to kill. He is a native of Buffalo, born of Polish parents. His father was a common laborer up to the time of his death by accident, four years ago. Eastman had no formal schooling, prior to the age of eight years, when he was arrested and sent to a private reform school at Buffalo. Here he remained for six years. After his release, arrest followed arrest, until he was sent to the Elmira Reformatory on the charge of burglary. Paroled in 1912, he with three companions worked his way west to Indiana as a common tramp. On being ordered out of a box car wherein they were stealing a ride, the gang opened fire on the train conductor, severely wounding him. From an early age, Eastman's companions were bad. His jail and reform school surroundings probably only accentuated his disregard for the rights of others. He used both liquor and tobacco, contracting the habits when a mere boy. His physical condition is fair, though he is not free from certain physical stigmata. He claims to have suffered a fracture of the skull some years ago, from the effects of which he has not fully recovered. This accident, however, was not experienced until after his life of crime was well begun. His mental tests were marked by a general spirit of indifference on his part. He cared not at all to make a creditable record for himself. Attention and application were out of the question with him, though he did not lack so seriously in point of general information. He was not interested by those motives which usually govern action. He confessed that he had never worked and did not care for the money which labor earned. Thoroughly selfish, he has no regard for ideals of honor, and no respect for law and order. He is not impressed with the heinousness of his crime, nor does he feel any pity or remorse because others have suffered through him. He furnishes a splendid example of those in whom there is an entire absence of the normal development of instinctive tendencies in the ethical sphere.

A type of criminal through passion is South (4065). He is twenty years of age, son of temperate, law-abiding American parents, both living and living together, without any known criminal history. He remained in school through the eighth grade, where he failed in grammar, because, as he says, he liked arithmetic so much better that he put in his best efforts on that branch. After leaving school he purchased a car and opened a taxicab business, which he conducted for three years. After bankruptcy he became an instructor in a school for automobile drivers. He smokes cigars, but confessed to no other bad habits. He was both honest and industrious. His single crime consisted of stealing an automobile

from an old gentleman who employed him through two weeks to overhaul his machine and then refused to pay him a fair wage, taking advantage of the fact that no contract had been made at the time of engagement. Enraged beyond control at this perfidy, South ran the car away, to be revenged. His only motive was to get even. He was arrested, convicted, and sentenced for grand larceny.

Physically he is none too strong. He has suffered from hernia from childhood and has had venereal disease. His mentality, in general, is of high order. He easily grades adult, with no marked deficiency in the tests applied, and yet, brooding over a wrong so accentuated his anger at his unfair treatment as to cause him to lose all control of himself. Here, too, as in the second case, the power of inhibition under severe strain was not sufficiently operative to support good judgment by strong will.

Time will not allow a consideration of examples of the merely accidental criminal or of the weak subject of suggestion. These, too, show a defect of specific function, which places the subjects completely at the mercy of circumstances.

Crime, then, is more than a mere accompaniment of defective mind. It is the natural outgrowth of faulty mental processes. This doubtless accounts for the fact that punishment cannot cure the criminal, nor even deter others from committing crimes. It is foolish to insist that punishment even deters the criminal from repeating his crimes. There is surely no fact more clearly proved to the criminologist than this one. Institutions of punishment only serve to augment the anti-social attitude of the criminal and return him to society determined to perpetrate even more daring crimes than he had known before. Statistics from investigators the world over call our attention to the fact that crime among us is increasing at a very rapid rate. Treatment, not punishment, is what is needed—good, intelligent, sympathetic, and scientific treatment under the best conditions and by the best advised scientists that can be secured for the work. This is not a call for the introduction of sentimentality. Warden Francis insists that the greatest menace to our progress today in institution affairs is “the long-haired man and the short-haired woman,” and he is right.

Instead of indulging in expression of sentimental regard for the unfortunate offenders, Society should rather give herself to the most careful investigation of those tolerated and even encouraged practices which everywhere are shown to be those agencies that contribute to the perpetuity and the multiplication of the criminal class.

Of a total of 416 new arrivals at the Reformatory last year, 246 came from disorganized families, and approximately this same proportion has been maintained throughout the last ten years; that is to say, that sixty per cent of the criminal class, as represented by the boys of our institution, have not had the possibility of normal family training. In a very large number of the disrupted homes, divorce has been granted. In other cases the father, the mother or both were dead. Neglect of youth makes directly for crime. Clearly, it seems to me, society has a duty to perform by the children in disorganized homes. No one of us but recognizes the large place the home should and does take in the normal development of the child. Where these influences are made impossible because of one reason or another, it is obligatory upon the state to act *in loco parentis* to assure to the child that training without which we cannot hope for his normal development.

Again society not only harbors, but seeks to profit by, such agencies as play upon the weaknesses of the weak. Fifty-nine per cent of the inmates received during the past six years were users of intoxicating liquors; eighty per cent used tobacco in one form or another; while fifty per cent were addicted to the use of cigarettes. Whatever may be said in the way of excuse for a moderate use of alcoholic beverages and tobacco among adults, there can be no justification whatever for the use of those drugs on the part of adolescents: but in spite of legislation, the one purpose of which is to make it impossible for the ruination of the boys of our country to follow from these sources, the process continues among us to an ever-increasing extent.

Most states of our nation boast rigid compulsory education laws. In spite of this fact, over ten per cent of the men entering our institution are absolutely illiterate, while the number who have reached the high school in educational progress is practically negligible. Of the 416 new arrivals at the Indiana Reformatory last year, eleven only claimed to have completed the twelfth grade, three entered college and one the theological seminary. The largest number left school at about the fourth grade. Here, again, so long as we are content to legislate merely for the purpose of keeping our state assemblies out of mischief while in session, with little thought of enforcing the laws which they make, we need not look for a bettering of those social conditions out of which we annually recruit our law violators.

Fully one-third of the new registrations of last year were idle at the time of committing the crime for which they were convicted. This is not to place the blame either here or there, and

yet it was no more true in the days of our youth than it is now that the devil himself puts to work any man who stands on the street corners with his hands in his pockets.

I love the Church and should be pained to say one word of adverse criticism against her; yet I wonder if she fully understands and appreciates her obligation toward those who come within the shadow of her towers. Only 122 of the 416 sent to us from the counties of Indiana last year were without church affiliation. One denomination alone, and that not the strongest in the state, sent us seventy-six. No, they were not good church members, yet the church can ill afford to lose so many of its communicants in a single year to a single correctional institution within the borders of the Commonwealth.

It may be argued that these various social agencies are not to be blamed for the lack of results in their attempts to train those whom we have clearly shown to be either mental defectives or at least more or less seriously disturbed in mental function. Nevertheless, we do insist that where the peculiarities of mental reaction are due to a lack of proper nurture rather than to a defect of nature, such oversight and care should and could have been exercised as to enable a considerable number to live lives of happiness, harmlessness, and comparative usefulness. While investigation in this field is still in its infancy, there can be no doubt that the coming years will prove conclusively what seems now to be indicated—that while the real efficient cause of crime is to be found in defective mental condition, the contributing agencies, in large part, are those social institutions which fail to interpret the vision and with consecrated effort so to purge themselves of carelessness and neglect as to recognize not only their splendid opportunity, but their grave and undeniable responsibility.

RACE BETTERMENT AND OUR IMMIGRATION LAWS

PROFESSOR ROBERT DEC. WARD, Harvard University, Cambridge, Mass.

In developing new fruits, and cereals, and flowers, we send our Government experts abroad. Far and wide, over Europe and Asia, in Africa and even in Australia, they diligently seek out the best seeds and plants and cuttings which they can find. These, having first been carefully selected, are then quarantined, if necessary, and closely examined to see that they are sound and free of disease and imperfection. Then, and not till then, are they planted in our soil, and begin their work of improving our stock.

So also it is with our domestic animals. From abroad, after a study of pedigrees often reaching back several generations, we import the best horses and cattle and sheep and swine that can be bought anywhere in the world. We send over expert breeders to select and bring back these animals. Every possible care is taken to ensure the selection and the importation of none but sound and fit stock.

During the past decade there have come to this country from abroad each year nearly one million human beings whose blood is to be mixed with ours in the production of the "American" race. Yet infinitely more care was taken in the selection of the few cattle which were imported for breeding purposes in this same period than anyone thought of taking in the case of these millions of men and women and children. Our public health is being well protected against diseased cattle, but we have not as yet done nearly as much as we should to guard against the far greater danger that lies in bad human blood. No officials, expert in diagnosing mental and physical defects, were sent abroad to pick out the fittest and most desirable aliens for introduction into this country, or even placed on board ship to pick them out in transit.

A policy of national eugenics, for the United States as for every other nation, means the prevention of the breeding of the unfit native. But for us it means far more than that. For us it means, in addition, the prevention of the immigration of the unfit alien. And of these two problems of American national eugenics the second is by far *the easier to solve*. We are only just beginning to devise means of reducing and of controlling the number of births among the unsound and the unfit who are already in our midst. But we have an opportunity which is unique in history for the practice of eugenic principles, immediately, and on a vastly greater scale than is possible in the case of any other nation. By selecting our immigrants, through proper legislation, we can pick out the best specimens of each race to be our own fellow-citizens and to be the parents of our future citizens. The responsibility which rests upon us in this matter is overwhelming. We can decide upon what merits—physical, mental, moral—these incoming aliens shall be selected. But what have we done? We have left the choice of the fathers and mothers of the future Americans practically altogether to the selfish interests, which care very little whether we want the immigrants they bring, or whether these people will be the better for coming. At present, the selection of our immigrants is almost altogether in the hands of the steamship companies. Steamship agents and brokers all over Europe, and

even in western Asia and northern Africa, are today deciding for us the character of the American race of the future. The steamships and railroad companies, and the large employers of cheap labor, have financial interests at stake. They want unrestricted and unselected immigration. They are well organized, and have very great influence in Washington. None of these "interests" cares in the least for the sanity or for the physical soundness of our race. If their pocketbooks are well filled, they rest content. Think of the extraordinarily illogical and indefensible position of the great "philanthropist" who gives his millions to "charity" and is at the same time opposing any further regulation of immigration because he wants to import foreign "cheap labor," regardless of its effect upon the race, in order that he may roll up more millions! This is not altogether a fictitious case. We constantly speak of the need of more "hands" to do our labor. We forget that we are importing, not "hands" alone, but bodies also. The vast majority of incoming alien immigrants are potential fathers and mothers, and the character of the race that is to be born depends upon the kind of alien bodies which we are allowing to have landed on our shores day by day. It is just at this point that there is the contact between immigration as an economic problem and immigration as a racial and as a eugenic problem, a contact which few of us are fully aware of.

Our laws at present aim to exclude some twenty-one classes of mentally, physically, morally, and economically undesirable aliens. On paper, the list of the excluded classes is long and formidable, and seems sufficient to accomplish our eugenic purpose. But the fact is that careful and unprejudiced students of immigration, both within the Immigration Service and outside of it, agree that we cannot now keep out the unfit sufficiently to preserve the mental and physical *status quo* of our population, to say nothing of promoting eugenic improvement. The former Commissioner of Immigration at the Port of New York says: "The present excluded classes by no means include all who are undesirable" (1912 Report). The Committee on Immigration of the Eugenics Section of the American Genetic Association, in its last Annual Report, summed up the situation as follows: "Not only (1) are the immigration laws inadequate to effect the exclusion of the unfit, but (2) the inspection is not as thorough as it ought to be, owing to inadequate facilities, an insufficient number of inspectors, and the frequent arrival of very large numbers of aliens at one time, and (3) in some cases the law has actually been violated, both in the spirit and in the letter."

Our immigration laws have grown up slowly as the result of experience extending over many years. They are good as far as they go. They have served as the basis for the immigration legislation of Great Britain and of Canada. They were not the result of any "Know Nothing" agitation, of the sudden demands of a political party, or of the whim of a moment. As recently as 1875, our laws excluded only criminals and prostitutes. Slowly, deliberately, carefully, this legislation was planned and grew up. Nevertheless, the experience of years has brought certain defects to light. Competent officials have pointed them out. Disinterested citizens, and economists, and medical men, and social workers, have studied our laws, and have shown us where they fail to accomplish their purposes. There is need of more excluded classes, and there is need of better administrative machinery.

Most of the recommendations which have been urged by those who have made an unprejudiced study of immigration were included in the Report of the United States Immigration Commission, which investigated the whole question for over three years, and were embodied in the immigration bill which passed the Sixty-second Congress; was vetoed by President Taft; was passed by the Senate over the veto by a vote of 72 to 18; and failed by less than a dozen votes of being passed over the veto by the House. *Every medical man in the United States; every social worker; every person in any way connected with the care of mental defectives; every taxpayer; every citizen who wants to keep the blood of the race pure, should join in demanding of the Sixty-third Congress the immediate passage of a similar bill and should see to it that that bill becomes a law.*

To our own very heavy burden of the defective and the degenerate we are adding every year, by immigration, thousands of aliens whose presence here will result, because of their own defects and those of their offspring, in lowering the physical and mental standards of the American race. We have much still to learn about heredity. But we know enough to be sure that if the quality of our race is to be preserved, there must be a far more careful selection of our immigrants than we have ever attempted to make. The need is indeed imperative for applying eugenic principles in much of our legislation. But the greatest, the most logical, the most effective step that we can take is to begin with the proper eugenic selection of the incoming alien millions. Let us see to it that we are protected, not merely from the burden of supporting alien defectives, but from that "watering of the nation's life-blood" which results from their reproducing their kind after admission. As Prof. Karl Pearson puts it: "You cannot change the leopard's spots,

and you cannot change bad stock to good. You may dilute it, possibly spread it over a wide area, spoiling good stock, but until it ceases to multiply, it will not cease to be." Every Senator and every Congressman of the United States should have brought home to him the truth of Lord Beaconsfield's words: "The public health is the foundation on which reposes the happiness of the people and the power of a country. The care of the public health is the first duty of a statesman."

The conservation of our national resources—how much we hear about that. Conservation of American forests is important. So is conservation of American coal, and of American oil, and of American natural gas, and of American water supplies, and of American fisheries. But the conservation and improvement of the American Race is vastly more important than all other conservation. The real wealth of a nation is the quality of its people. Of what value are endless acres of forests, millions of tons of coal, and billions of gallons of water, if the Race is not virile, and sane, and sound?

RACE BETTERMENT AND AMERICA'S ORIENTAL PROBLEM

PROFESSOR SIDNEY L. GULICK, D.D., Kyoto, Japan.

The problem of race betterment for Americans is intimately connected with that of immigration: for the hundreds of thousands from other lands who annually come here to stay, contribute their quota to the heredity of the American people. During the past fifty years a few score thousand Chinese and Japanese have come to our land. At first welcomed by those who wanted cheap labor, they are now feared, and complete Asiatic exclusion is becoming the settled policy of America and of all lands in which the white man is dominant. A high wall of exclusion is raised against the Asiatics in British America, the United States, New Zealand, Australia and British Africa. This threatens serious dangers if persisted in. California's anti-Asiatic legislation is producing indignation throughout Japan, not because of deprivation of economic opportunity, but because of treatment which is regarded as unfriendly, ignominious and contrary to the treaties of sixty years' standing.

Japan, three hundred years ago, afraid of the white man's aggressions, excluded for 250 years all foreign peoples, refused to her own people all foreign travel, and sought to live entirely to herself. The price she paid for national seclusion was loss of international stimulus to growth: she fell behind. At last it became impossible to carry out her age-long exclusion policy. To maintain her ex-

istence she was compelled to undergo radical, humiliating, and painful reorganizations of her national life. She adopted the new policy of learning what the white man has to teach, and of entering fully into the life of the world. The late war with Russia shows her success.

In the Boxer uprising, China tried to follow Japan's exclusion policy of three hundred years ago, but she began too late and failed. One month after the signing of the treaty of Portsmouth between Japan and Russia, China officially abolished her system of classical education which had lasted for over two thousand years and adopted Japan's policy of learning from the white man.

Japanese cannon at Port Arthur and Mukden sounded out not only over the hills and plains of Manchuria, but over all Asia, and told the colored races the secret of power wherewith to hold their own against the white man; namely, international life with mastery and adoption of the white man's knowledge.

Napoleon is reported to have said: "China is a sleeping giant—let her sleep; for when she wakens, she will shake the world." China is awaking; she is friendly now to America because of our return of the Boxer Indemnity and our helpfulness in recent times.

But do you think China will fail to be indignant if we continue to treat her citizens in America as we have been treating them during the past fifty years? As surely as the night follows sunset, will the united antipathy and ill treatment of the yellow man by the white race be followed by resentment and indignation of the yellow man. Then will begin the "Yellow Peril."

What an unspeakable obstacle to race improvement will arise if the Occident and Orient are thus set in solid ranks against each other? Not only will incalculable commercial loss take place, but vast military and naval expenses will be thought necessary, as each prepares to meet the anticipated invasion of the foe. Race suspicion, ill-will, antagonism will demand the application of the wealth and brains of both sides to military defenses instead of to race betterment. Militarism and warfare breed countless ills; they are fertile sources of race deterioration.

But we must look at this matter from another side. Races, plant, animal and human, have arisen through isolation and segregate interbreeding. For thousands of years little groups of men have battled with the universal, common problems of human life, practical, theoretical, social, moral, and religious; each has developed its own mode of solving these problems; each has its own world-view, its own practical methods of wringing a living from

Nature: its own way of integrating society, of making men social and responsible.

Each people and race has thus been carrying on, quite unconsciously indeed, yet none the less really, vast practical experiments. These have progressed along lines largely different. Divergent evolution is the source of diverse races and civilization. Yet in spite of large isolation, periods of limited interchange of ideas and practices have occurred; these have proved to be periods of immense progress; the stimulus of one civilization on another has been of incalculable value, adding materially to richness of life and thus to race betterment. On the other hand, prolonged inbreeding of small groups of men has tended to degeneration. The virile races today are all the products of wide race mixture.

Now the outstanding characteristic of the present age is the collapse of space through man's modern mastery of nature. Races wholly ignorant even of one another's existence are now coming into close contact. Two great streams of civilization have arisen—the Eastern and the Western. With the modern collapse of space, mankind inevitably enters on a new era of universal contact, resulting in convergent social and biological evolution. The good and the true which each race has acquired through its isolated life, may now be communicated to every other race. So, too, may its diseases and its errors. The barriers separating peoples today are language and race antipathy—race prejudice. This general interchange, however, is intimately related to universal race betterment. The policy of the white race, scorning all other races and excluding them from equal opportunity with themselves in their own best political, economic, moral and religious life, is a serious obstacle to race betterment—alike of the white man himself and also of the colored races.

Race betterment rests on two distinct factors: nature and nurture—biological heredity and social heredity. The laws of the two are distinct, yet their interrelation is of the closest. Human race betterment, be it ever remembered, does not depend exclusively on biological principles, for social inheritance, given only after birth, is a factor of superlative force; this is given not by biological processes, but by education, by language, by every influence which molds the mind and heart and conduct. Wholesome nurture, transmitting wholesome social inheritance, can alone provide the right environment in which human biological heredity can produce its best results.

This distinction between social and biological heredity and inheritance is of the utmost consequence in considering the prob-

lems of immigration, race assimilation, and race improvement. Civilization, mental habits, moral and religious ideas, with all the practices to which they lead, are matters of social, not of biological heredity; they can be taught to individuals of *any race*. The social assimilation of races can proceed independently of intermarriage. Sociologically speaking, Japanese and Chinese are just as assimilable as Italians and Russians. Indeed, Asiatic children born and reared in America are more completely cut off from their social inheritance than are the children of any European people because of the extraordinary difficulty of learning to read Chinese and Japanese.

The problem of the intermarriage of whites and Asiatics is one that needs scientific study. We need a commission of expert biologists, sociologists, and psychologists to make such a collection of the facts already available that we may know accurately what are the biological consequences of intermarriage. Even though the intermarriage of whites with blacks may be bad—I know nothing, however, as to facts at this point—it does not necessarily follow that their intermarriage with Japanese or Chinese will be bad. Black races have been developed under the tropics and have never undergone social discipline. Chinese and Japanese have lived for thousands of years in the North Temperate Zone, and have undergone severe social discipline. They are on the whole vigorous, brainy people. The Japanese are characteristically artistic and dexterous. There is every reason to hold, *a priori*, that intermarriage would prove advantageous, just as crossing of nearly allied animal and plant races is often highly advantageous. But we now need scientific knowledge which can be collected only by experts adequately equipped. Whether race improvement or degeneration will occur through Asiatic and white intermarriage should not longer be left to the decision of ignorant dogmatism based on race prejudices.

The permissibility of race intermarriage—even if biologically not harmful—is, however, closely dependent on social assimilation. Social assimilation should precede intermarriage, otherwise the right conditions cannot be secured for transmission of the right social inheritance. This is a principle of the very highest importance, and pertains alike to Europeans and Asiatics coming to America.

It is not to be lightly assumed, however, that all races should have absolute freedom for immigration to America. The United States is making stupendous experiments and, in justice to ourselves, and for the sake of the whole human race, we must not

allow those races and peoples to come here in any considerable numbers who will not or cannot enter into our life and cordially make these experiments with us. The Pacific Coast is quite right in demanding that there shall be no swamping Asiatic immigration. It is wrong in its mode of attacking the problem, in its treatment of the Asiatic and also its attempt to solve the problem from the standpoint of exclusively local interests.

The new Asia that is arising, with its consciousness of race history, destiny, pride, and plight, demands of the West equality of treatment with that accorded one another by nations of the West.

America accordingly needs a new Oriental policy, which, while it conserves our great democratic experiment and its institutions, shall treat all races alike and yet shall admit only so many annually from each land as we can really assimilate.

This is a principle that applies equally to every people. This assimilable number depends in large part on the number of those from that land already here *and assimilated*. The full explanation of this principle I have given in my work on "America's Japanese Problem." An immigration law should be enacted allowing an annual immigration from any single mother-tongue group of, say, five per cent of those already here and naturalized, including their American-born children. Such a law would allow practically unlimited immigration from Great Britain, Germany and Scandinavia; it would curtail somewhat immigration from South Europe, and allow only a very small number of immigrants from Japan and China.

For the real and full assimilation of foreigners, moreover, naturalization upon qualification is essential. Provision should accordingly be made for proper education of aliens in American history, ideals, political practices, and the English language. Only when aliens qualify should they be given the ballot. If Chinese and Japanese have adequately qualified, they, too, should be naturalized.

In conclusion, I summarize the central points brought forward.

1. The era of convergent evolution has begun. The policy of complete exclusion by one race of the civilization and people of another has been repeatedly tried and has failed because it is in the end disastrous.

2. The permanent betterment of any one section of the human race cannot go forward to any large degree independently of that of the rest. We are members of one another—East and West, North and South. The diseases of Africa and Asia and the destructive ideas of Europe and America cannot be permanently isolated. The good of each should be transmitted to the rest. Race betterment

must be universal if it is to be permanent. All must consciously combine in repressing the bad and upbuilding the good.

3. I urge, therefore, the importance of appointing a commission of experts for the scientific determination of questions of inter-marriage between members of different races.

4. I also urge the importance of adopting immigration and naturalization laws which, while they conserve the essential interests of our own country, shall also deal justly and courteously with every other race on a basis of equality and in harmony with their dignity and race consciousness.

Discussion.

Immigrant Classification by Mother-Tongue

PROFESSOR HERBERT ADOLPHUS MILLER.

Dr. Sidney Gulick stated that a large part of the immigration problem was assimilation, and suggested that if we had a law limiting the number of immigrants to five per cent from any mother-tongue, that would probably be a practical way to handle it. The Dillingham Bill, before Congress now, limits the number to ten per cent of any nationality, taking the country of birth as the basis of computing that nationality. Doctor Gulick's suggestion of mother-tongue is the only possible solution of the immigrant difficulty. Most people do not realize, for instance, that most of the immigrants who furnish so much of our problems, come from Austria, Hungary, and Russia. It is absurd to compute it as ten per cent of, say, the people from Austria. The smallest proportion who migrate here are Germans and the largest number are Poles. Poles come also from Germany and from Russia. Twenty-eight per cent of Austrian immigrants are Poles. From Russia fifty-two per cent are Jews and a large per cent of those who come from Germany are both Poles and Jews. From Russia there are fifty-two per cent Jews, then Poles, then Lithuanians, then Finns, then finally twenty-two per cent Russians. The framers of this bill think of the immigration by countries as those who have definite characteristics. The Slovak of Austria hates the Magyar, and the Pole hates the German, and the Bohemian hates the German, and the Slovak hates the German, so there is less similarity between the people of Austria and Russia who come here than there is between the people of Sweden, France, and England. If we are going to get after this on the proper basis, it should be on the mother-tongue basis.

Last year I went to supper with a Lithuanian undertaker. To be gracious, I asked him about his business. His face lighted up quickly, and he said, "It is a strange thing that this is a growing

city, but the number of funerals has dropped off about one-third." I asked him why it was. He said that it was because of the new law, which he did not understand, which required the undertaker to have a death certificate from a physician or to notify the coroner, and if the coroner finds that a physician was not called in, he fines the family twenty-five dollars. It is necessary to fine only one family in a community. These Lithuanian peasants, as you know, are illiterate; they have never been in the habit of calling in a physician. I have found people who have been in Lithuania who have had pneumonia and did nothing for it except to take gunpowder, thinking it would shoot the pain out. That is a prevailing idea. They never call a doctor, but this law, fining them for not calling a doctor, suggests to a whole neighborhood that the way to save the coroner's fine is to get the physician. In order to save the fine, the people call the doctor. They have cut the death-rate down nearly a third in that mining town.

This undertaker had a good deal of information that the most of us don't have. He said that most of these babies are saved by young doctors. He said the old doctors are good for the big folks, but the young doctors save the babies. I don't know how that is explained, but it is an interesting thing. This particular town has this immigrant problem also in a very interesting way.

Another host was a Polish priest. The Poles of Spring Valley come from Russia and Germany and they are members of that church. In this city, nine-tenths of the population are foreign-born. They are all segregated into groups. There is practically no American influence. You cannot reach that problem by a literacy test. You have to meet it by some readjustment of the forces of civilization, so as to get a group small enough to bring under the influence of those things which are necessary for the maintenance of our American civilization.

Discussion.

Immigration

PROFESSOR MAYNARD M. METCALF.

I wish to correct a little further Dr. Sidney Gulick's point, that race betterment means the betterment of the human race, not merely of any American race. The point I wish to make is that since isolation is ceasing and every man is becoming every other man's neighbor, there will ultimately be but one human race. Complete amalgamation of all races which persist is inevitable. Whatever the general feeling as to the intermarriage, illegitimate birth alone would cause complete amalgamation. It is merely a question

of mathematics, and not of sociology. The most interesting questions in this connection are first, What races will survive to share in building the ultimate human race? and second, What will be their contribution to that race? In five thousand years—and that of course to the eugenist is but a day—in five thousand years we may know, though, of course, it may be longer. The fact that there will be but one race of mankind ultimately has important bearing upon a number of social questions of the present moment, and the inevitableness of that result should be in the mind of those who are thinking of any such question as eugenics.

Discussion.

The Socially Assimilated

DR. LUTHER H. GULICK.

The suggestion of my brother [Dr. Sidney L. Gulick] with reference to immigration was somewhat different from the one offered. My brother suggests that the immigration from any mother-tongue group be five per cent of those who have already become citizens. It is not significant how many unassimilated people have come to this country of a given nationality or tongue. The significant thing is how many have become American citizens; that is, have become socially assimilated. They are the class through whom social digestion may take place, and I may say my brother is in touch with Senator Dillingham with reference to this matter.

CONSTRUCTIVE SUGGESTIONS FOR RACE BETTERMENT— SUMMARIZED

Abolish Production and Sale of Alcoholic Liquors

MR. ARTHUR HUNTER

While not a total abstainer, I am convinced that it would be immeasurably better for this, or any other, country to have the production and sale of alcoholic liquors abolished if it were practicable. The advantages claimed for alcohol are a small offset, in my judgment, to the evils which proceed from its use and its abuse.

Fake Cures for Consumption

DR. S. A. KNOPF

The man advertising fake cures for consumption should be treated as a murderous criminal, for such he is.

Refuse Liquor Advertisements

GEORGE B. PEAK

A few years ago the leading newspaper in our city announced the fact that no liquor advertisements would appear in the paper in the future. That paper was soon followed by the other papers, and now in Des Moines, a city of over one hundred thousand, it is impossible to insert a liquor advertisement in any of the papers.

Anti-Spitting Ordinances

DR. S. A. KNOPF

Anti-spitting ordinances with the request to hold the hand before one's mouth when coughing, the avoidance of overcrowding, proper ventilation and without overheating, a frequent disinfection of all street, railroad, and Pullman cars, cabins, steamboats, etc., are the only way to minimize the dangers from tuberculosis and other infectious diseases of the respiratory organs for the traveling public. These ordinances should be enforced, but receptacles in public places for those who must spit should also be provided.

Better Babies Contests

DR. LYDIA ALLEN DEVILBISS

During the past year [by the Better Babies Contests] at least one hundred thousand babies have been examined for physical and mental development, as part of this campaign for race betterment. The parents of these babies have been taught that the unfit child is

not a visitation of Providence, but the natural result of ignorance or sin. They have also learned that in this day of scientific care of children, practically every baby can be made a better baby if properly and intelligently brought up.

A Health Survey

DR. J. H. KELLOGG

A health survey should be made of every civilized community, which should include every man, woman and child.

Birth Registration

DR. CRESSY L. WILBUR

I would suggest that this organization formally take some action in regard to the importance of birth registration, and perhaps appoint a committee to take up the matter as a national and state question.

Breast-Feeding

DR. S. A. KNOPF

Malnutrition and the underfeeding of the masses, which is so great a predisposing factor to tuberculosis, should be combated by beginning with having fewer artificial-fed and more breast-fed babies; by instructing ignorant mothers how to feed infants and little children; by providing simple but substantial school luncheons for all school children at cost; by education of the mothers in economic housekeeping, cooking, and food values; and by having eating places for the great army of unmarried laborers after the example of the German *Volksküchen*, where people can receive good, wholesome food at reasonable prices; by legislative and philanthropic endeavors to make farming more profitable and more attractive, and by a wiser statesmanship, whereby the cost of living may be reduced for the entire people.

EDWARD BUNNELL PHELPS

Simply give the baby what God intended it should have—one primary article of food for which its little digestive organs alone are adapted—mother's milk; also plenty of air, plenty of water, plenty of sunshine, and keep out of its stomach for the first six months, as you would a virulent poison, any semblance of solid matter. I finally believe, after some years' study of the statistical side of this subject, that if we could accomplish this much, we could cut the world's infant mortality rate in the middle.

Bureaus of Child Hygiene

DR. S. A. KNOPF

Many mothers do not know how to feed their children, which results in malnutrition. Education, best accomplished by the per-

sonal visits of competent nurses, under the direction of a bureau of child hygiene, should be a part of every modern health board.

Business Men's Affidavits

GEORGE B. PEAK

I noticed the other day in a Des Moines paper that twelve of the leading business men of Des Moines—men who pay the largest taxes (with the exception of one taxpayer there, who rents his buildings very largely for saloon purposes)—signed an affidavit and presented it to the courts. They demanded that the saloon be closed on the ground that (1) it increased their taxes because it increased the expenses of looking after the policing of the city; (2) because it increased the expenses of the courts; because it filled the poorhouses and because of the expense of the inebriate asylum and all of these things; (3) that the saloon, instead of being a revenue producer, was an expense maker. Whenever you can get the people to see the saloon from that point of view—that it is an expense maker instead of a revenue producer—you make a gain.

Camp Hospitals

DR. S. A. KNOPF

In many Indians' homes sanitary conditions are frightful. A federal commission appointed to investigate tuberculosis among the Indians reports that "a comprehensive remedy can be afforded by the establishment of camp hospitals in the nature of temporary sanatoria for the treatment of tuberculous Indians on the reservations where the disease is known to be common." The report recommends a vigorous campaign throughout the Indian country of systematic instruction in sanitary habits and methods of living looking toward the making and enforcement of reasonable sanitary regulations. I have only this suggestion to add, that whenever possible a doctor of their own race (not a "medicine man"), educated and licensed as a regular physician, should be put in charge of anti-tuberculosis work among the Indians, or at least be an assistant to the government physician. Outdoor sleeping, proper nutrition, and the prohibition of the sale of alcohol on reservations or anywhere else to Indians, should, of course, be added.

Clearing House for Mental Defectives

PRESIDENT STEPHEN SMITH

The establishment of a "Clearing House for Mental Defectives" to coordinate all organizations which have supervision of children, in a common effort to separate the defectives and place them under proper care and treatment.

Clinical Facilities for the Recognition of Tuberculosis

DR. S. A. KNOPF

Clinical facilities for the recognition of tuberculosis in every community arranged by physicians in cooperation with the municipal authorities; a multiplication of such institutions as dispensaries, serving as centers or clearing houses to distribute the cases; preventoria to which to send suspected cases; sanatoria for the curable cases, and hospital-sanatoria for the seemingly hopeless ones for isolation; and where it is possible sanatorium treatment at home,—these are most efficacious weapons, up to this date, for solving this phase of the tuberculosis problem.

Commission on Intermarriage

PROF. SIDNEY L. GULICK

The problem of the intermarriage of whites and Asiatics is one that needs scientific study. We need a commission of expert biologists, sociologists, and psychologists to make such a collection of the facts already available that we may know accurately what are the biological consequences of intermarriage.

Conservation

FREDERICK L. HOFFMAN

Much has of necessity been left unsaid which has immediate reference to the factors conditioning race progress as measured by changes in the death rate, but the most pressing question is the more intelligent, and if necessary the radical, conservation and control of the natural resources of the earth, including the food resources of the sea.

There is imperative need of improved methods of agricultural production and the elimination of waste of soil, seed, and labor, which is inherent in primitive methods of farming, such as are still exceedingly common throughout the entire United States and Canada.

There is urgent need of more scientific methods of utilizing waste products of all kinds, and of qualified research into the sources of new food supplies.

Constitutional Amendment

DR. HENRY SMITH WILLIAMS

The records of police courts, the records of prisons, the records of almshouses, the records of asylums for the insane—all show conditions in the prohibition territory that average at least as bad as and very commonly worse than those in license territories. I fear there can be no question about that. It remains, then, to inquire, What shall we do? Accepting the facts as I found them, I cannot make myself believe that the present line of legislation is effective,

or is the best that we can do. Others feel the same way and some in authority. Last summer Senator Works, of California, introduced a joint resolution in Congress providing for the total abolition of distilled liquor. He wishes to have a constitutional amendment passed to that effect.

Convalescent Homes and Colonies

DR. S. A. KNOFF

To have a sufficient number of convalescent homes where patients discharged from general hospitals, including also the mothers discharged from the maternity hospitals, can remain long enough for their physiological vigor and earning capacity to be re-established, is the only way to overcome this source of predisposition to tuberculosis.

But to send the tuberculous patient, particularly a laborer or a working girl or woman, for a six-months' or even a year's sojourn at a sanatorium is not enough to make the cure lasting. Hence, agricultural, horticultural, and general industrial colonies should be attached to our public sanatoria. It is here where the patient has the best possible chance, by graded labor, still under medical supervision, to make his cure a lasting one.

Agricultural, horticultural and industrial colonies where sanatorium graduates may have an opportunity to go for a year or more to earn a fair wage, and at the same time given a chance to make themselves stronger and more resistant against a new outbreak or invasion of tuberculosis are as essential as sanatoria or special hospitals.

Contests

DEAN WM. W. HASTINGS

Physical and Mental Perfection Contests for ascertaining physical and mental conditions and promoting improvements.

Counter Attractions to Saloons

DR. HENRY SMITH WILLIAMS

More important as I see it than anything else, let the entire proceeds, both the government revenue and local license fees, be used for public utility, and not applied to the general tax-rate, but be used for eleemosynary institutions, playgrounds, gymnasias, music halls, and other counter-attractions to the saloon. That, of course, is the second fundamental principle of the great Swedish Gothenburg System.

Country Life

REV. NEWELL DWIGHT HILLIS

The evangelist who ultimately will solve the problem of the deterioration of the factory class physique in the Bowery districts is the inventor who will give us a better electric motor, a better car that can be loaded with working men and women twenty miles in

the country and land them in the city at work in fifteen minutes for two cents, and then with a little house set in a garden and with light and air on every side, we shall give the boys a chance and the girls a chance to build their bodies and to manufacture a splendid physique as the implement of thinking and of the soul, and then to have all the other things artistic, intellectual, social, religious, educational.

DR. S. A. KNOPF

Alcohol, venereal diseases, and tuberculosis are more prevalent in cities than in the country. I venture to say that all of these diseases, and particularly tuberculosis, will be decreased by a return to the farm. If our statesmen can help to make farming more attractive and profitable, country life, particularly for young people, less monotonous and more enjoyable, a great step toward the decrease in the morbidity and mortality of the above-mentioned diseases and a consequent betterment of the race will surely be attained.

SIR HORACE PLUNKETT

Speaking as a social worker, may I ask the Conference to bear in mind the countryside, and to give us any help it can, by way of counsel and advice, as to how we may re-enforce our plea that country life is better for the race than city life, and how we may, by applying the wisdom of the Conference, demonstrate that truth.

The people of my own country are predominantly rural, and my experience in studying and dealing practically with its problems has brought me into embarrassingly intimate relations with a numerous body of social workers in the rural sections of the United States. These workers aim at a complete reconstruction of rural life—an improvement of its technical and business methods and of its domestic and social conditions. For reasons of national importance and urgency—reasons economic, social, and political—the settlement of a much greater proportion of the people upon the farm lands of the country, in healthy, happy, and progressive communities, is becoming every year increasingly the aim and object of philanthropic endeavor.

DEAN WALTER TAYLOR SUMNER

I wish that before this Convention there could be the greatest emphasis put upon the fact that the city is no place for boys and girls. This is a Race Betterment Conference, and, taking it from the angle of industry, the boy and the girl have far more show in a rural district than they have in the city.

BOOKER T. WASHINGTON

We should use our influence, if we would better the condition of my race, to keep the masses of our people in the country districts and out of contact with the large, complex problems of city life,

either North or South. The negro, on the whole, is better off in our Southern states than he is anywhere else in this country.

DR. S. A. KNOPF

I must refer to many of the abnormal industrial conditions of our day and the social injustice arising therefrom—our strikes, the lack of employment in some districts, the lack of workers in others, etc. These conditions must be readjusted; our deserted farms must be repopulated from the congested cities; the lives of the masses must be made happier, larger, and fuller. When all this is realized, it will not only help in the solution of the tuberculosis problem, but will be a mighty factor in bringing about what this Conference has been called to consider—a genuine race betterment. But let us not think that this will come about unless we all believe in and work for a larger love of humanity and for more social justice and personal service to our less fortunate brothers and sisters. Someone has said that service to man is the highest service to God.

"Cures"

DR. LOUIS FAUGERES BISHOP

An element in the prevention of arteriosclerosis is the education of all persons in the habit of taking "cures," if this name may be used for periods of time set apart for the putting of the body in the best possible order.

We should adopt the motto, "Attend to the health while healthy," and encourage the European custom of the combination of a vacation and a visit to a cure resort.

Death Certificates

PROF. HERBERT ADOLPHUS MILLER

Last year I went to supper with a Lithuanian undertaker. To be gracious, I asked him about his business. His face lighted up quickly, and he said, "It is a strange thing that this is a growing city, but the number of funerals has dropped off about one-third." I asked him why it was. He said that it was because of the new law, which he did not understand, which required the undertaker to have a death certificate from a physician or to notify the coroner. If the coroner found that a physician was not called in, he fined the family twenty-five dollars. It was necessary to fine only one family in a community.

Differential License

DR. HENRY SMITH WILLIAMS

I would have the saloon where we must have it, pay a much higher license on distilled beverages. That would discriminate against whiskey and increase its price. As a mere economic result, therefore, its consumption would tend to decrease.

School Hygiene

DR. E. B. HOAG

Large cities should employ a director of school hygiene and several assistant directors on full time. A few half-time men may be required, but in general the work of half-time men in large cities will be better done by full-time school nurses.

Standardize the position of the school health officer in the United States.

A community, then, in selecting a school medical officer, should seek a cultured physician whose training in the fundamentals of medical science has been adequate, and who, in addition, possesses aptitude and enthusiasm for the work and a willingness to supply any deficiency he may have along special lines.

The school health officer should, in the larger places, be controlled by the board of education.

A cooperative plan whereby the board of education and board of health jointly control school hygiene may be desirable for special local reasons.

School health officers may be provided by combining the position of town or small city health officer with that of school health officer, in which case the expense may be shared by the board of health and board of education; the appointment may be made by the former board, with the approval of the latter. This is an excellent arrangement for large towns and small cities.

County health officers, if properly qualified, may be appointed as school officers as well, and in this joint capacity supervise the school health of a village or a whole county, according to the population and distance involved. This will often solve the problem of hygiene in rural schools.

The compensation for a school health officer may be based upon the time required of him and upon the amount of his responsibility.

School health officers should familiarize themselves with the following divisions of school and child hygiene: (a) Transmissible diseases; (b) school sanitation; (c) physical defects; (d) mental defects; (e) dental hygiene; (f) the teaching of hygiene; (g) juvenile delinquency; (h) retardation; (i) school hygiene literature; (j) the elements of school architecture.

Disease Prevention Campaign

DR. C. N. JOHNSON

If our school boards would spend one-half the amount in a campaign for the amelioration and prevention of disease that they now spend annually for teaching the "repeaters" who are made such by reason of disease, it would not only be more humanitarian, but it would be an immense saving financially.

DR. LILLIAN H. SOUTH

Hookworm is one of the easiest diseases to cure and to prevent. The way we can eradicate it is by asking everyone to be examined

for hookworm. It does not cost anything. The laboratory of the State Board of Health examines specimens from all over the country, free of charge. We ask the affected ones to take the treatment until they are cured. If you have a sanitary toilet in every one of these homes, you will banish hookworm disease, typhoid fever, and diarrhea, which are so prevalent.

The State Board of Health have devised a separate tank arrangement that does not have to be cleaned out and is odorless and fire-proof. That is the way we are going to combat this question and revolutionize the whole South, in combating the hookworm.

Disinfection

DR. S. A. KNOPP

Thorough disinfection of rooms and house should follow the removal of a tuberculous patient, and tuberculosis would no longer be a house disease.

Educational Courses

DR. WINFIELD SCOTT HALL

Education should cover the following lessons: Motherhood and Fatherhood; Womanhood and Manhood; Periodicity; Social Relationships and Eugenics.

FREDERICK L. HOFFMAN

There is need of greater emphasis being placed in educational courses upon the principles and practice of domestic economy and the required reduction of per capita food consumption, with a proportionate increase in nutritive values, conforming to the results of qualified studies of dietaries such as have been made by Professors Atwater, Chittenden, and others.

MRS. MELVIL DEWEY

The education of all women in the principles of sanitary science as the key to race progress in the twentieth century; also—

HANDWORK in elementary schools;

DOMESTIC SCIENCE in secondary schools;

HOME ECONOMICS in normal and professional schools;

EUTHENICS in colleges and universities.

EDWARD BUNNELL PHELPS

Twenty million children are regularly attending the public schools of this country. At least one-fourth of that number, or five million children, eventually become mothers. Why not systematize the teachings of two or three or four fundamentals of motherhood in the public schools for the girls between, say, eight or nine and fifteen or sixteen years; properly put before them moving pictures, manikins, illustrations, as you please, and teach them the fundamentals of motherhood and thereby insure, at least for the next

generation, proper motherhood for our two and a half million babies a year?

DR. CAROLYN GEISEL

Men, give us money to support the woman's college which teaches a woman her own business. Then she will stand by you, equipped to be your helpmate indeed, equipped to care for your babies, to keep them very carefully, but, more than that, equipped to keep you out of your grave.

GRAHAM TAYLOR

One of the recommendations of the Vice Commission was not only better police, not only stronger spiritual forces, but a safe, sane training in sex hygiene. It was begun with the parents and it was continued last year by authority of the Board of Education with about fifty-one thousand high school children, by about forty carefully selected physicians in very carefully supervised and censored lectures under the masterful and sane and visioned leadership of Ella Flagg Young.

Educational Period

PROF. ROSWELL H. JOHNSON

Cease prolonging the educational period past the early twenties. The professional schools in our country are steadily delaying the age of graduation and thereby that of marriage.

Electric Rays

PRESIDENT STEPHEN SMITH

Use electric rays in school rooms for facilitating the mental and physical development.

Encourage Early Marriage

PROF. ROSWELL H. JOHNSON

Hold out marriage as one of the ends of a useful, normal, beautiful life. Help superior young people to meet, and encourage and further their early marriage.

Eugenic Investigation

PROF. MAYNARD M. METCALF

Aside from a few very limited aspects of the negative practice of eugenics, the whole subject is, as yet, of little social significance. The prolonged labor of hundreds of special students is needed before this matter, which already is of the keenest biological interest, can become of the greatest social moment. We must cultivate a little of the patience of God. The man of science needs to work quietly, patiently, doggedly, without too much thought of so-called practical value to follow from his studies.

There are positive aspects of the matter which deserve the chief emphasis. Let me again urge that among the great needs must be recognized scientific study of the principles of inheritance, and for this liberal financial support should be had; and the cultivation of the realization that in marriage it is ignoble to seek the happiness only of the man and wife and to forget the character of the children and through them the welfare of society.

To what extent the state can now intervene to prevent unsocial marriages is a question which needs careful detailed study, and is not an appropriate question for discussion in this brief general paper. But aside from this question of the limits of state action, we must emphasize the vital need of cultivation of the social point of view in this most vital of social institutions, the family, and the need now to gather the data upon which eugenics may in the future be based.

Eugenics and Euthenics Education

DR. J. H. KELLOGG

Eugenics and euthenics should be magnified before the people until their paramount importance is appreciated and legislatures become willing to appropriate funds as liberally for these essential means of race betterment as they are now doing for the improvement of crops and farm animals through similar means.

The laws of eugenics and euthenics should be taught in every school and preached from every pulpit. Every teacher, every leader of human thought, every publisher, all professions, all serious-minded men and women should join in making known to every human being in every corner of the globe the fact that the human race is dying, and to discover and apply the remedies necessary for salvation from this dismal fate.

DEAN WALTER TAYLOR SUMNER

I believe that education is the great hope for eugenics. The greatest agent in education in this country today with reference to health certificates is the press, largely the metropolitan press, of this country.

Eugenical Agencies

MR. H. H. LAUGHLIN

Education, legal restriction, segregation, sterilization — these four eugenical agencies are of primary remedial value. If the first fail, apply the second; if it also fail, apply the third; if segregation ceases and the first two factors do not deter from parenthood the potential parent of inadequates, apply the fourth. Purify the breeding stock of the race at all costs.

Eugenics Registry Office

DR. J. H. KELLOGG

A Eugenics Registry Office is needed to establish a Race of Human Thoroughbreds. It takes only four generations to make a

thoroughbred, when the principles of eugenics have a fair chance to operate. Intelligent men and women everywhere throughout the civilized world are becoming aroused to the race significance of these great biologic laws, and are anxious to become informed in relation to Eugenics and Euthenics, and to conform their lives to the principles of physiologic and biologic righteousness.

We have registries for horses, cattle, sheep, pigs, and even cats and dogs. If a lady wishes to establish the standing of her pet poodle as a thoroughbred, she can do so by appealing to an official record, and the puny canine may lift its head above its fellows a born aristocrat, and prove its claim. But nowhere on earth, so far as the writer knows, is there to be found a registry for human thoroughbreds.

The hope is entertained by the promoters of this Conference that one of its results may be the establishment of such a Registry. Indeed, it seems that the time has fully come when a Eugenics Registry Office should be established, in which may be recorded the names of infants born under eugenic conditions, and perhaps also the names of persons who in person and pedigree are able to measure up to eugenic standards.

Prizes should be offered for the finest families and the best health and endurance records.

Exhibits

DR. S. A. KNOFF

Besides popular anti-tuberculosis and general hygienic education, demonstrations by permanent exhibits, distribution of literature, lectures in schools, colleges, workshops, mills, factories, mines, stores, and offices, the examination of every tuberculous adult should be accompanied by personal instruction in how to prevent infecting others.

Fashions

DR. CAROLYN GEISEL

You know that the fashions of today are not of your seeking. You did not make them, but I call upon you, in the strength of your united womanhood, that we arise in our power and demand that decent clothes be put upon the market for us to wear, or that we will remain in our homes until we can get a gown that will be seemly.

Fecundity Statistics

PROF. WALTER F. WILLCOX

In the Report of the Director of the Census to the Secretary of Commerce and Labor for the year 1910 one may read the following passage: "It is also proposed . . . to work out from the returns on the schedules statistics with regard to fecundity as indicated by the number of children born and the number living for women of different classes in comparison with their age and the

duration of marriage. . . . A considerable amount of preliminary work on this subject was undertaken at the census of 1900, but the results were never tabulated or published. It is respectfully suggested that the Secretary recommend to Congress that the Director of the Census be authorized to tabulate the more important information on this subject for the 1900 census as well as that for 1910. . . . This subject is one of profound importance and the census schedules furnish data by which conclusions of the utmost value can be readily drawn. A plan has been devised by which the expense of . . . tabulating the results on this subject for the census of 1910 will be much less than would have been necessary to complete the work on the lines begun in 1900.”*

At the present time no funds are available for completing this work, and there is danger that for the third time the inquiry will suffer shipwreck.

Feeble-Minded Colonies

See also “Clearing House for Feeble-Minded.”

HASTINGS H. HART

If the several states will establish colonies for the feeble-minded, to accommodate those who are now kept at public expense in insane hospitals, almshouses, prisons, and reformatories, they will make room in those institutions for persons who properly belong there, and will obviate, for the time being, the necessity for their enlargement. All of these institutions ought to be hospitals in principle.

Feeble-Minded Girls

HASTINGS H. HART

We should undertake a comprehensive campaign for the care of all feeble-minded girls of child-bearing age.

Food and Environment

MRS. MELVIL DEWEY

The relation of both food and environment to man's efficiency is a vital question. How far they are responsible for his character, his health and understanding, what special elements are most potent and which are the most readily controlled, are questions offering an interesting field for research.

Government

S. S. McCLURE

When masses of individuals set out to cooperate together to produce some given result or to carry on some given enterprise, it has been found that there is only one successful method of organizing, and that method is by the election of what corresponds in all cases, without any exception, to what a board of directors is to a corporation.

* Report of the Director for 1909-10, pp. 45-46.

Government Basis for Sale of Alcohol

DANIEL A. POLING

I am convinced that the Government ought to assume a proper attitude on the alcohol question, that the Government ought to say as a foundation basis—a basis upon which we can work to eugenics—whether the liquor traffic as an institution, the liquor traffic as a great problem, industrially, economically, politically, and morally is right or wrong. Having so declared itself, then it comes to us as a greater opportunity to take care of the actual situation that confronts us at the present time.

Health Certificate

DEAN WALTER TAYLOR SUMNER

We may approach the subject of a health certificate through the avenue of those who perform marriage ceremonies. At the Cathedral in Chicago, since Easter of 1912, we took the stand that thereafter we would marry no persons unless they presented a certificate, signed by a reputable physician, that they had not an incurable or communicable disease. Since that time over fifty ministerial associations representing nearly every religious body from Maine to California in their membership, about thirty-five hundred of the clergy, have agreed at least to urge, if not downright to demand, a health certificate before they will perform a marriage ceremony.

Housing

DR. S. A. KNOPP

In addition to wise state and city legislation, philanthropy also must come to the rescue by building houses for the masses such as will deserve the name of human habitations, giving the occupants an abundance of light, air, and sunshine. Wherever and whenever practical, the home of the married American workman should be a detached, single-family house.

Our colored population and the districts where many Chinese and Japanese live must receive special consideration under the subject of housing.

In view of the existing race prejudice or antipathy, it would be better for colored people to unite and, by cooperation with philanthropists, to build sanitary tenement houses in segregated districts than to try to crowd into the already overcongested districts inhabited by the poorer classes of the white population.

Immigrant Insurance against Tuberculosis

DR. S. A. KNOPP

The influx of tuberculous immigrants likely to become a burden to the community should be prevented by compelling all steamship companies to assure a clean bill of health for every immigrant they bring to these shores, and to insure every immigrant against tuberculosis. The policy should entitle the bearer to return

transportation and free treatment in a sanatorium in the event of his contracting tuberculosis within a specified time. The cost of the insurance could be added to the price of the steamship ticket.

Immigration Legislation and Investigation

PROF. ROBERT DEC. WARD

We have an opportunity which is unique in history for the practice of eugenic principles immediately, and on a vastly greater scale than is possible in the case of any other nation. By selecting our immigrants, through proper legislation, we can pick out the best specimens of each race to be our own fellow-citizens and to be the parents of our future citizens.

Most of the recommendations which have been urged by those who have made an unprejudiced study of immigration were included in the Report of the United States Immigration Commission, which investigated the whole question for over three years, and were embodied in the immigration bill which passed the Sixty-second Congress; was vetoed by President Taft; was passed by the Senate over the veto by a vote of 72 to 18; and failed by less than a dozen votes of being passed over the veto by the House. Every medical man in the United States; every social worker; every person in any way connected with the care of mental defectives; every taxpayer; every citizen who wants to keep the blood of the race pure should join in demanding of the Sixty-third Congress the immediate passage of a similar bill and should see to it that that bill becomes a law.

PROF. SIDNEY L. GULICK

I urge the importance of adopting immigration and naturalization laws which, while they conserve the essential interests of our own country, shall also deal justly and courteously with every other race on a basis of equality and in harmony with their dignity and race consciousness.

America needs a new Oriental policy which, while it conserves our great democratic experiment and its institutions, shall treat all races alike and yet shall admit only so many annually from each land as we can really assimilate.

An immigration law should be enacted allowing an annual immigration from any single mother-tongue group of, say, five per cent of those already here and naturalized, including their American-born children.

H. H. LAUGHLIN

As a final factor, the federal government must cooperate with the states to the extent of excluding from America immigrants who are potential parents and who are by nature endowed with traits of less value than the better ninety per cent of our existing breeding stock.

Adequate data, upon which differential exclusion of immigrants could be based, can be secured only by investigating the traits of

immigrant families in their native towns and villages, by sending trained field workers to such places.

Industrial Welfare

F. O. CLEMENTS

Our President, in going through the factory one day, noticed a woman heating coffee on a radiator. Later he saw a group of girls eating cold lunches at their workbenches, and so a kitchen was installed and they are now served a warm lunch at a nominal fee.

In the early days of the business, the men and women came to work at the same time, and left at the same time. Now the women arrive later than the men, and in the evening they are well on their way home before the men leave the factory.

In the old days employees were compelled to climb the stairs to the various departments. Today, elevator service is provided, with separate elevator service for the women.

The uncomfortable stool has been replaced by the high-back chair and foot-rests. The Company has installed every type of convenience, sanitation, and safety within the factory.

A meeting-place was provided for the boys, and classes in manual training established.

A plot of ground was set apart for garden work, and the boys supplied with seeds and tools and put to work.

It was found necessary to do a great deal of neighborhood work to clean up the unsightly surroundings, so that skilled labor might be induced to come to that town.

Lectures illustrated by slides were made up to illustrate the proper and improper way of beautifying the surroundings.

For many years, much of our type of instruction has had to do with the general question of health.

In our older type of buildings, air is drawn through a ventilating duct from the top and distributed throughout the building. The air is changed every fifteen minutes. Some of our more modern types of buildings wash and humidify the air, and a very close regulation of temperature is possible.

In our Polishing Department and metal rooms there is an exhaust system installed for carrying away the metal dust.

Shrubbery hides the foundations and walls of our buildings, and adds very much to the beauty of the surroundings.

At ten o'clock in the morning and at three in the afternoon, the windows in the office departments are thrown open and the men and women indulge in light exercise.

We have gymnasiums and health classes for increasing the efficiency of the office force and the women employees.

The office clerks meet three times a week in the gymnasium after working hours.

The athletic fields surrounding the factory are used by employees before and after work and during the noon hour. They consist of tennis courts, baseball grounds and gun club grounds.

Scattered throughout Hills and Dales are a number of Adiron-

deck Camps. These are fully equipped and can be used by any employee on application.

Any woman employee is eligible for membership in the Woman's Century Club, its object being to promote the intellectual and social welfare of its members.

A vacation house located in Hills and Dales is used by the Century Club for entertainments, week-end parties, etc. Its object is to teach women how to manage a home.

The company encourages horseback riding, by boarding the horses owned by employees in the Company's stables at cost.

The company maintains training-schools in various parts of the world for its agents.

They also have advertising, accounting, apprenticeship, physical training, salesmanship, and other classes, meeting at regular intervals.

The office building is supplied with distilled water and individual cup service.

Two hundred and twenty shower baths are distributed throughout the factory. Every employee is given company time to take two baths a week.

Treatment rooms have been provided.

Much attention has been paid to food.

Our Officers' Club accommodates about six hundred people at lunch. We serve a very wholesome, well-cooked dinner, very simple and plain. Food is kept hot in chafing dishes and served on plates holding hot water.

Brushes and combs are sterilized daily and washed in benzine.

Roller towels have been done away with, substituting individual hand towels.

The girls are provided with sleevelets and clean aprons every week.

Umbrellas and overshoes are loaned on rainy days.

All new employees must undergo a physical examination. We believe in periodic examinations.

The employees have a strong voluntary Relief Association which pays sick, accident, and death benefits.

We also have an emergency hospital where accidents are cared for.

We have a trained nurse who visits our sick employees in their homes.

An oculist examines the eyes of our employees and decides when glasses are needed. Free examination is afforded and the Company pays half of the price of the glasses.

Our Hall of Industrial Education, recently erected, is capable of seating about 1,200 people. These lecture halls and school rooms are thoroughly equipped with projection apparatus. This hall is aptly named our Power-House. Much of our time has been devoted to educational talks on health.

Welfare work supplies just that which is lacking. It brings the best there is out of each employee and results in cooperation and team play.

Inheritance Records

PROF. MAYNARD M. METCALF

One thing, however, of the greatest practical value we can do: We can promote in every possible way the gathering and safe filing of human inheritance records, which in the future will serve as the foundation of such practice of eugenics as shall prove wise and practical. I can, in imagination, see the day when the compilation of inheritance data for each citizen will be compulsory, and when the files of these records will be the most valued of all state documents; when no marriage license will be issued except after the most careful scrutiny of the inheritance records of each contracting party by trained students of inheritance, and when the state will debar from marriage those whose children will be a burden to it. The bearing of children is, of course, not an individual right, but a social privilege, and in time it must come to be so recognized.

Meanwhile let us actively promote the gathering and preserving of inheritance records for all persons, thus providing data for intelligent practice of eugenics in coming generations. We can at once insist upon the gathering of such data for all persons in our state penal institutions, almshouses, hospitals, asylums, etc. I am told that the city of Rochester is doing this with its public school children. We can urge the gathering of such data by privately controlled institutions of similar purpose. We can urge right-minded individuals everywhere to supply such data as to themselves and their families. Nothing short of a state system of compulsory gathering of data for all individuals can serve as an adequate basis for such negative eugenics as it may in time be wise to enforce by law.

DR. C. B. DAVENPORT

We believe that it would be an excellent thing were students who appear in schools able to present to the teacher a record of inherited capacities or performances of close relatives in order that the teacher might have, when the pupil appears, something more than a blank face and a suit of clothes, some idea of the probable potentialities in that child, that his teachings might be directed in such a way as to develop them and that he should not have to wait for a year in order to find out what the capacities of the pupil are.

Inland Sanatoria for the Tuberculous

DR. S. A. KNOFF

For larger children afflicted with pulmonary tuberculosis, we should have inland sanatoria with schools attached.

Even the smallest children, if found tuberculous, should receive institutional treatments when the parents are poor, and whenever possible the mother should be allowed to remain with the child.

We must at once, throughout this vast country, strive to have no uncared-for tuberculous patient. To this end, institutions for the treatment and care of the tuberculous who cannot be cared for

at home without endangering others should be multiplied by state and municipal appropriations and private philanthropy.

HASTINGS H. HART

We should convert existing institutions which are no longer needed for their present purposes into state institutions for defective delinquents.

International Conference

ROBBINS GILMAN

I offer you this suggestion, to-wit: That this Conference set in motion machinery for the calling together of delegates from all the leading nations of the world for a conference to discuss ways and means by which such nations, each acting for itself, but for the good of all, can, through governmental action, or otherwise, better the race of man from the standpoints of physical health, mental attainments, and moral stamina. This would be more than a Eugenics Congress, although eugenists would be, it is hoped, delegates; it would be more than a Health Congress, although doctors would be in attendance; it would be more than an Ecumenical Conference, although spiritual leaders would be there; it would be more than a Peace Conference, although peace advocates would attend. It would be a gathering of statesmen, scientists, humanitarians, and government officials, all optimists, with national and international barriers knocked down, interested in the welfare of each because the welfare of each is inseparable from the welfare of all. Prison reformer, social and unemployment insurance advocate, child labor expert, the missionary, the teacher, the doctor, the social worker, physiologist, psychologist—they would all be present to discuss the relationship of syphilis, alcohol, and tuberculosis to racial betterment and the direct and indirect bearing thereon of medicine, education in matters of sex, proper care and treatment of infectious and communicable diseases, mental deficiency, housing and living conditions, city planning, hours of labor and recreation. And above all would such a conference discuss the positive side of Race Betterment; eugenics and not dysgenics; constructive work as opposed to destructive; perfectibility and not deformity or degeneration or disease.

Investigation of Insanity

PROF. WALTER F. WILLCOX

We need in this country a thoroughly disinterested, competent, and qualified study of the subject of the increase of insanity. I feel sure that if such a study were made, it would show that the increase that exists, if it does exist, is far less than the increase shown on the face of the figures. I am disposed to say that some increase would be found, but nothing like the increase we ordinarily hear about.

DR. H. W. AUSTIN

Further scientific investigations are necessary to accurately determine the causes of the various forms of insanity and other mental

defects, and the cause of their rapid increase in number, and also the best method to be adopted to prevent their multiplication.

Laws to Prevent Multiplication of Defectives

DR. J. H. KELLOGG

Society must establish laws and sanctions which will check the operation of heredity in the multiplication of the unfit.

HASTINGS H. HART

We should provide by law for the establishment of separate departments or colonies in connection with prisons and with adult and juvenile reformatories.

We should secure legislation whereby, whenever inmates of institutions for other classes are found to be feeble-minded, they may be kept permanently in public care.

DR. H. W. AUSTIN

Provided they could be wisely drawn and wisely executed, special laws to prevent the propagation of defectives, such as the chronic insane, the feeble-minded, epileptics, the degenerate and habitual criminals, would accomplish much in the way of race betterment. In legislation, as well as in social reform work intended for race betterment, in which individual liberty is concerned, it is essential that we first have an actual knowledge or some understanding of the evils which we are endeavoring to remedy.

Lectures

DR. GUILFORD H. SUMNER

Local interest in health work should be stirred up by practical, convincing literature and lectures.

Marriage Laws

DR. H. W. AUSTIN

Uniform and proper marriage laws that would prevent the innocent from contracting disease and that would tend to improve the offspring are desirable; but syphilis and other venereal diseases may be, and often are, contracted by men and even women who were free from the disease prior to marriage. Therefore, to eliminate syphilis as a cause of mental and physical degeneracy, one must resort to education as to the terrible results of this disease, to religious and moral education and preventive medicine and therapeutics.

BYRON W. HOLT

The Pittsburg Morals Efficiency Commission took a strong position in favor of eugenics marriage legislation. It also reached the conclusion that (as the New York *Evening Post* states it) "the one most potent weapon in the reduction of vice the Commission believes to be early marriages, to encourage which it emphasizes good

housing, cheaper living, and even vocational education, as permitting the easy conversion of youth into self-responsible, wage-earning manhood."

Marriage and Social Welfare

PROF. MAYNARD M. METCALF

Let us promote the view that social welfare, not individual comfort, is the ultimate criterion in marriage.

Meat and Milk Inspection

DR. S. A. KNOFF

Contaminated food substances, i. e., contaminated by the tubercle bacillus—tuberculous meat, milk—sources of tuberculous infection, as, for example, from cattle or hogs, should be dealt with by federal laws, since state laws, by reason of their diversity and often inadequacy, have proved inefficient. All milk, if not coming from tuberculin-tested cattle, should be thoroughly and scientifically, and not merely commercially, sterilized.

REV. CAROLINE BARTLETT CRANE

In an agricultural region such as surrounds thousands of cities and villages in the United States, one would naturally expect that the meat supply, like the milk supply, would be shipped in from the surrounding country, and that each city might protect itself against diseased or unwholesome meat by a proper ordinance and a proper system of inspection.

We are not necessarily dependent on federal meat inspection. The remedy is to make meat inspection a detail of Community Hygiene. There is no advantage from a sanitary or economic viewpoint in shipping cattle a thousand miles or so to a packer to be slaughtered, then shipping the meat back, with all the attending loss and deterioration and the increased prices. We want to foster local packing houses and local stock yards. We want to build up the stock-raising industry around about our own communities. We must not expect help by getting our meats from Argentina. We want to cultivate our own stock-raising industry, a commercial as well as a sanitary benefit to all our people.

Then we should let the label tell the truth, whether upon locally or federally inspected meat. If there are people willing to eat meat from tuberculous and cancerous carcasses, let them: but let them also know what they are eating by the use of a special stamp or designation which conveys that knowledge. But let us demand that persons who wish to eat meat, but only if it is from animals free from disease, may have the means of knowing how to obtain such meat.

We should do all we can to bring about a reform in our disgraceful federal service; but, also, we should promote local inspection of a high order. It is for any community to put the standard just as high as it will. In the matter of milk inspection, each city

may decide for itself how many bacteria per cubic centimeter will be allowed, and all other details of milk inspection. In the same manner, a city can decide exactly what standard it will have for its meat supply. Here is a department of "Community Hygiene" which has been long and most unjustifiably neglected and one which I earnestly commend to this Conference, and to all members who feel an interest in the purity of the public food supply, the purity of governmental administration, and the prosperity of agriculture in this country.

Medical Examinations

DR. VICTOR C. VAUGHAN

Adopt frequent and thorough medical examinations (especially before entering into a marriage contract), in order to detect wrong conditions in their incipency and enable the examinee to cure them while cure is possible.

It has been proposed that the life insurance companies represented here seek to prolong the lives of their policy holders by offering them free medical re-examination at stated intervals.

FREDERICK L. HOFFMAN

The physical training of the young, and the medical supervision of schools and factories, including periodical examination for the purpose of correcting physical defects in the initial stage, or treating incipient disease, with a reasonable chance of cure, have become accepted principles of modern government. In course of time these efforts must profoundly modify not only the health of the young, but what is equally important, the health of persons employed in industry. Furthermore, there must come about in consequence of such efforts, a decided improvement in physique and more general conformity to a normal physical type, and the gradual elimination of the, at present, disproportionately large number of persons physically defective or infirm, and by inference, or obviously, the less efficient for the economic needs of society.

E. E. RITTENHOUSE

We should also make an especial effort to teach our people the wisdom and the urgent need of going to their doctors for periodic health examinations for the purpose of heading off these and other affections.

To urge upon our people the wisdom of this course and of using the knowledge and skill of the physician to prevent sickness and untimely death rather than to continue the deadly habit of waiting until the case is hopeless before sending for him, is, to my notion, a thoroughly practical suggestion.

Here is a neglected but fruitful field. The need of having these inspections should be firmly fixed in the minds of our school children and of our people generally. Every individual and journal interested in improving the vitality of our race and every health

department should adopt the policy of constantly urging this inexpensive preventive measure, which can be done almost in a sentence.

It would take but little encouragement for those who are leading in the campaign for race betterment to set in motion a sentiment that would soon establish health inspections as a common practice among our people.

DR. S. A. KNOFF

An examination for tuberculosis prior to admitting an individual into a workroom or factory where he comes in close contact with others would seem to be the best safeguard to others.

Our municipal and federal governments should take the lead in this matter. Have every municipal employee and every employee in post-offices or other federal departments examined for tuberculosis. Federal offices should be models of sanitation and proper ventilation, so that the dangers of contracting a predisposition to tuberculosis should be reduced to a minimum.

An annual, or better yet semi-annual, examination of every individual in every community would lead to the early discovery of tuberculosis in any member of the community; his being taken care of at the right time and in the right place would eliminate him as a danger to the family, and tuberculosis would no longer be a family disease.

DR. H. W. AUSTIN

The medical examinations to determine whether there are any mental or physical defectives among the one million arriving immigrants at Ellis Island, N. Y., during a year (occasionally five thousand during one day) is, from the race betterment standpoint, in so far as it relates to this country, most important.

DR. ROSWELL H. JOHNSON

Freedom from venereal disease before marriage, at least for men, must be attested to by competent physicians by competent tests, the state assuming a share of the financial burden.

REV. NEWELL DWIGHT HILLIS

The city of Dresden, in Germany, spent \$350,000 in accumulating facts. They went into tenement-house regions and studied the factory-class folk, then put up there the result of their series of experiments, and I wish you would notice very carefully—since I am condensing a volume into about a minute and a half—the result of their experiment. First of all, there is a report on a chart of the vital experiment. They took one thousand boys on Monday morning, tested them as to their gripping capacity, their lifting capacity, tested them as to their lung capacity, tested them as to their heart action and as to their memory.

Monday night came and at six to eight they were put through these tests as rapidly as possible. In one test in nine to ten hours they had lost ten per cent of their gripping power and of their lifting power and of their nerve force—an excellent example of the law of diminishing returns. Monday night, of course, they rested.

When Tuesday morning came, they had only returned to ninety-eight. Tuesday night they were down to eighty-eight. When Saturday came they were down to ninety-three in the morning. They lost two per cent in Monday's work; two per cent Tuesday, one per cent Wednesday, half of one per cent on Thursday, and then they found it was absolutely necessary—to put those boys back in the beginning—to give them one day of rest, which they called the library day or a hospital day or a picture gallery day for the body as well as for the soul. Then Monday morning they were back again to normal. They had to skip one day. It turned out to be a physiological law, or a hygienic law, a nerve law, a chemical law so to speak, or a mineral law if you want to speak of it in that way.

Then came the other tests. There were probably enough tests on the influence of nicotine on a working boy's body to fill the entire side of this room. First of all, a little jar with a growing weed, then here there was a little jar with a growing shrub, there a jar with a large stalk of corn. They breathed a few breaths of nicotine into the glass jar that they put down over the weed and the corn, so that the little plant had to breathe the nicotine. The most revolting ulcers broke out on the vegetable life. The plants secreted a vegetable excretion that would answer to the saliva. It was enough to nauseate a body's stomach simply to look at the result.

Then there were two tests as to the influence of alcohol upon children's bodies and the physique of the working men, tests in regard to the collections of dust in the lungs of a boy that worked in a stone quarry and a girl in the department store breathing foul air all day long—a marvelous city's test. There were photographic tests exhibited of the influence of various things on the heart. Then there were great physical tests in regard to the body.

No country has any right to impose burdens and responsibilities on noble physicians and on clergymen. The state owes it to the physician who has done so much for us and owes it to the teacher and the preacher and the justice of the peace to make it absolutely obligatory to keep a fair statement open to inspection of everybody as to the physical history of every boy and girl that lives in a community, so that whenever they have any disease, the law shall say it is the duty of that physician, not simply to put a red card, "scarlet fever," on the door, but to write out a full story, so that when the boy and the girl come to their wedding time, they know what lies back of them.

MISCELLANEOUS

DR. H. W. AUSTIN

Opinions differ as to the principal factor in race improvement, and one of the following is frequently offered: Education; physical training; religious instruction; medical instruction; temperance; chastity; proper mating; sanitary environment during childhood; hygienic diet; clothing and housing; social reform, especially in the way of amusements for all ages; proper marriage laws; laws to prevent the multiplication of the weak-minded, criminals, and those who have been insane, by sterilization.

DEAN WM. W. HASTINGS

It is better to have fillings in your teeth than to lose them entirely, but better still to choose good parents and use a good tooth brush freely and not need the fillings.

It is better to take the morning cool bath daily, cleanse the skin and tone up the arteries than to put all the work of elimination on the lungs and kidneys and contract some chronic disease at fifty.

It is better to take time and take it regularly for proper elimination than to suffer fatigue and loss of the power of mental concentration from the reabsorption of poisons into the system.

It is better to stand up straight like a man than to approximate the all-fours habit of our cousins, the apes, and contract spinal curvature, limit vital capacity, and suffer ultimately from nervous and lung troubles.

It is better to eat lightly and simply of digestible food than to consume half the energy produced by this same food in the processes of preparation for assimilation; better also to abstain from headaches and other symptoms of autointoxication due to wrong feeding. Better to leave the young pig in the mire than to help him out by being compelled to expend your vital energy in his elimination.

It is better to sleep in a close room long and laboriously than not to sleep at all, but best to sleep with windows open wide or out of doors and save an hour of life daily.

It is better to allow yourself some amusement daily for a few minutes at least, but not preferably for several hours in a stuffy theatre or public dance hall until late at night. We Americans are losing our mental poise partly by indulging in the tense, exciting things rather than retaining the simple home amusements of our English forebears.

It is better to do resistive exercises in your own room or formal gymnastics in the gymnasium than to get no exercise at all and no neuro-muscular tone, but best of all get out of doors and work or play where God meant you to be. Men require recreation, relaxation for strong life and long life.

It is better to marry than to burn, Paul says, but better still to remain single and burn out your life in the service of humanity than to marry without health and without perfect mating. Even the birds know better than this. If wedded life is the most natural and most important matter in the world, individual and national, why not prepare for it by seeking the greatest possible physical perfection and mentality and real character and by a study of the nature and function of true love, which is the highest force in all Nature.

DR. GUILFORD H. SUMNER

Curative processes, while very necessary, are not the most essential to the public in general. We must not only study the clinic, but the street, the alley, the back yard, insanitary privy, the pollution of streams and all kindred subjects which are disease-producers. These very important subjects are the doctor's domain. Numerous

new topics must be discussed, which deal with the relationship of medicine to society, and bear on the economic basis of disease.

DR. S. A. KNOFF

Education, wise legislation, rational temperance movements, better food and better cooking, and popular healthful engagements for the masses, are, to my mind, the most rational means to combat the alcoholic evil.

The predisposing factors to tuberculosis, such as child labor, sweatshop labor, too long working hours for men and women, bad housing in tenements, apartments, lodging houses and hotels in city and country, including farm houses, boarding schools, orphan asylums, and other institutions housing many people, must be combated by rational laws and their strictest enforcement.

Municipal Hotels

DR. S. A. KNOFF

Cheap lodging houses and hotels should be done away with, substituting for them sanitarily constructed municipal hotels and lodging houses.

National Control of Liquor Traffic

DR. HENRY SMITH WILLIAMS

The great truth is that the real solution of the liquor problem must come through taking the control of the traffic out of individual hands, making it so that no individual and no corporation makes money out of the sale of liquor. That is the great truth which originated and was promulgated in Sweden.

National Health Department

DR. HENRY BAIRD FAVILL

The necessity for some central federal health organization is agreed upon by all those familiar with the situation.

DR. CAROLYN GEISEL

The Government has paid nineteen millions of dollars to call the boys back to the farm. When has it paid ninety cents to call the woman back to the home? And until you call her back to the home, the foundation of the Government is gone. Why race betterment if you have no home? And can you have a home without a female person around?

DR. J. H. KELLOGG

The establishment of a National Department of Health will provide a central bureau by which to unify the work and collate its results and interpret them to the people.

The United States Government has supplied every farmer in the United States many times over with literature telling how to raise the best crops, how to produce the fattest pigs and the finest horses and cattle. How much more important that not only every farmer,

but every family, should be instructed in the principles of right living—how to produce strong, sane, healthy, and efficient human beings.

REV. CAROLINE BARTLETT CRANE

To the wise and discriminating person, it is evident that each community must not only do its own part, but it must maintain a partnership in public hygiene with other communities, under supervision of the state, which grants to municipal corporations all the rights and privileges they possess, and which may naturally be looked to to maintain substantial justice between these corporations; also, that states, and communities within states, may justly expect the national Government to exercise strongly, in behalf of the general welfare, any power it may possess; as, for example, the power assumed to itself by what is known as the "Inter-State Commerce clause" of the Federal Constitution.

National League of Employers

MELVIL DEWEY

In talking with Doctor Kellogg, he suggested that an outcome of the Conference ought to be a national league of employers who would refuse to take into their offices, as I have for many years, a boy who uses tobacco or liquor or profanity or vulgarity. If we would begin with a league of employers who should say as a matter of economies and of practical business wisdom, "We will not employ in our offices or in certain places any young man who uses tobacco, liquor, profanity or vulgarity, it would help immensely." For the boy who wants to get on in the world, if he knew a thousand employers in America would absolutely refuse to have him in their employ, it would help him to take that attitude, and as a practical example, it would be easier to combat the evil.

The employers of the Employers' League will pledge themselves not to employ users of alcohol and tobacco if you go as far as that. We could get a thousand employers in a very short moment who would refuse to take into their employ any man, boy, or woman either, addicted to this vice that is making a race of runts.

Naturalization upon Qualification

PROF. SIDNEY L. GULICK

For the real and full assimilation of foreigners, moreover, naturalization upon qualification is essential. Provision should accordingly be made for proper education of aliens in American history, ideals, political practices, and the English language. Only when aliens qualify, should they be given the ballot.

The Negro Race

BOOKER T. WASHINGTON

Those of you who would keep the body of my race strong, vigorous, and useful, should use your influence to keep the bar-room closed—to keep whiskey away from the negro race.

I want to ask you to use your influence to keep the patent medicine nostrums away from my race.

You can help the negro in two ways, by being frank with him, telling him about his faults, and by helping him to improve by praising just a little more.

It is immediately important for the sake of the colored woman—and equally important for the sake of the health, happiness and upbuilding of your race—that that colored woman or colored girl who plays such an important part in the rearing of a large portion of the white people should be intelligent, that she should be clean, that she should be, above all things, virtuous.

DR. S. A. KNOPF

Education by lectures, distribution of literature, and tuberculosis exhibitions in the districts of colored people will doubtlessly do a great deal of good.

Open-Air Schools and Outdoor Sleeping

DR. S. A. KNOPF

Open-air schools, and as much open-air instruction as possible in kindergarten, school, and college, should be the rule. Indoor instruction should be the exception. There should be no home lessons for the younger children. Love for life in the open should be inculcated in the young and old throughout the country. There should be a sufficient number of public parks and playgrounds in our great cities to counteract congestion and to reduce it to a minimum. The roofs of all city houses should be utilized to give more open-air life to the inhabitants by making them into roof gardens, recreation centers or playgrounds.

Outdoor sleeping should be encouraged, whenever feasible, as a preventive of tuberculosis.

Personal Hygiene

DR. W. A. EVANS

The individual can contribute toward race betterment by keeping his body in better condition, by maturing and by caring for a better machine than is the present average machine.

Police Court Records

DR. HENRY SMITH WILLIAMS

Let the records of our police court be given to the saloon-keeper, and let him be restricted from selling alcohol to a person who has been arrested for intoxication, for a period of one year, let us say, or two years, and take away his license if he violates that. Take away his license at once if he ever sells to a minor.

Procreation of Tuberculous

DR. S. A. KNOPF

Procreation of the tuberculous should be prohibited by law and the prevention of it taught to every tuberculous adult. Violators of this law should be punished.

Prohibition

GEORGE B. PEAK

I believe that the only successful fight against alcoholism is to stop the open places that educate the young man to drink.

Public Baths

JUDGE BEN B. LINDSEY

A gang of bedraggled, dripping little boys that a policeman had dragged out of the only "swimming pool" in town, down by the railroad track, was brought into court because some prudish ones could not bear to see little boys in that unfortunate state. I found on investigation that it cost us several thousand dollars a summer to have two fountains in front of the Court House, in which sported little boys of brass and iron clad in a nice smart suit of paint. I said to myself, if this town can pay several thousand dollars a summer for artificial fountains with boys of brass and iron, it can pay something for boys of flesh and blood.

The judgment of the court, in that case, was not that they be sent to jail. I said, "Kids, you better go swimming in the fountain since there is no swimming pool." But in time—when the community woke up to the fact that it was not the child that ought to be before the bar of justice, but the community—we had seven public baths in the park and one great, splendid public bath in the town, and we didn't need to jail any more boys for that sort of thing.

Public Discussion

DR. H. W. AUSTIN

Public discussion of the subject in which men and women of national reputation take part, which may appear in the public press, would do much to educate the public and advance the cause of race betterment.

Publishers' League

MELVIL DEWEY

I wish someone would take up here and give some sidelight on what the publisher said who stated he was very ready to join in a league of publishers that would refuse to break into their columns the advertising of alcohol, tobacco, and patent medicines, get-rich-quick schemes, or any other thing distinctly inimical to race betterment. There are hundreds of publications in this country. This Conference should unify them to form a league of that kind. Whatever you may say on drink and liquor, we will all agree that it is a bad thing for the race to have it advertised and thrown before them in all sorts of ways.

Race Betterment League

DR. LUTHER H. GULICK

In view of the fact that there is at present no source from which authoritative, simple information can be secured with reference to the subject of better mating and better rearing, I ask that the Execu-

tive Committee be requested to consider the matter of forming a Race Betterment League.

How Women May Suppress the Brothel

DR. J. H. KELLOGG

If the women of this town would say to themselves, "We will not have a brothel in this town," there would be none. How would you get rid of them? Why, if you could not induce your husbands, by continual clamor, to take proper action in this matter, you would be justified in going out *en masse* and tearing that house down.

Registration of Venereal Disease

DR. J. N. HURTY

The law should require the prompt reporting of cases of the hereditary plague. They are, except in certain instances, acquired in sin and self-disgrace.

Safety Appliances

JUDGE BEN B. LINDSEY

Sixteen thousand children were made orphans in a few years in three or four states in this nation from explosions in coal mines, a large part of which could have been avoided, according to government reports, if they had used the right kind of safety appliances. You can't get rid of delinquency unless you put the child in the bosom of the home and a father and mother there to look after him.

Sanitary Kitchens

HASTINGS H. HART

I was perfectly astonished to find in the city of Jackson last year the finest kitchen I ever expect to see this side of Heaven, a sanitary kitchen in the school for the deaf. The school superintendent searched the world over for ideas, then built an institution that may serve as a model for at least the whole Southern country. Somebody gave him five thousand dollars and he has established a sanitary kitchen which is beyond our conception.

Seaside Sanatoria

DR. S. A. KNOFF

For children afflicted with glandular, joint, and bone tuberculosis we should have seaside sanatoria. Some of our discarded battle-ships or cruisers may be utilized for this purpose instead of being sold as junk or made to serve as targets.

Segregation of Tuberculous and Alcoholic

DR. S. A. KNOFF

In prisons, segregation of the tuberculous from the non-tuberculous and healthful indoor occupation under sanitary conditions should be provided. Have the cells well aired and properly heated in winter,

and remove as far as possible all depressing psychical influence. Tuberculous prisoners should be treated like any other tuberculous patient, and the more agricultural or horticultural work that all prisoners can do under proper supervision, the fewer will develop tuberculosis.

DR. HENRY SMITH WILLIAMS

We must treat the dipsomaniac rationally—segregating him for a sufficient period.

State Insurance

DR. J. H. KELLOGG

Through state life insurance, the whole population might be brought under government medical supervision. By periodical examinations the early beginnings of chronic diseases might be detected and thus arrested by timely instruction in regard to necessary changes in habits or occupations, and every such case would become an object-lesson by means of which relatives and friends should be influenced to adopt preventives in time to avoid the same maladies.

FREDERICK L. HOFFMAN

It is well known that annuitants are more likely to attain to old age than persons badly provided for with the necessities of life, and it therefore follows that substantial improvements in the economic condition of the population must necessarily tend towards the same result. The economic importance of this question is quite considerable, in view of the increasing extent to which the pecuniary needs of the aged are provided for now by the state, corporate, or private pensions, best indicated in the case of England and Wales.

DR. LYDIA ALLEN DEVILBEISS

The mother who risks her life to produce a child surely does as great a service for the state as the man who kills another mother's son in defense of it, and she ought to be so recognized, and pensioned, if in need.

DR. S. A. KNOPF

There should be state insurance against tuberculosis, so that the man without means may be assured that even if he is found to be tuberculous, he or his family will not be in want. Until, as in Germany, state insurance companies have their own sanatoria, our private insurance companies should be permitted to establish and maintain sanatoria and special hospitals for their tuberculous employees and policy holders.

Social Program

DR. LUTHER H. GULICK

What provision do you make in Battle Creek whereby groups of girls, Camp Fire Girls or others, or groups of boys or groups of boys and girls together, with guardian or chaperone, can go off for a tramp of five miles and find a good place to make a fire and a place

to bake some potatoes and have a good time together and come back home again normal, good?

Are there any places where boys can do things who are motor minded, who love tools and who want to make engines and automobiles and bicycles and steamboats and all those things? Do you have a sane public school athletic league? If you have not, you have not one of the most important social inventions.

What chance do you people in Battle Creek give to the children under ten to come in contact with real Nature at first hand with somebody that loves and understands it? What chance is there for them to get it down in their souls so they will have it as a purchased possession all the rest of their lives?

If there is no such opportunity, get up a committee and get such a place and administer it and see that Boy Scouts, Camp Fire Girls, or anyone else—that these young people in their proper places and at proper times get the chance to establish this neuromuscular habit of wholesomeness. When young people want to have birthday parties, can you get the use of a room in a school building for that purpose? If not, why not? There is no reason why the schools should not be used by the citizens for their social purposes.

Is there anybody here who realizes that all of this conquering of air has grown out of our knowledge about kites and that boys love kites and that a kite-flying contest in Battle Creek or the model aeroplane club would occupy the time of some hundreds of boys probably? Are there any men and women in Battle Creek who realize that to think up things of this kind, and put the machinery back of them to make them happen, is the kind of thing that will really deliver the goods?

State Investigation of Degenerate Communities

DR. C. B. DAVENPORT

Our studies have also led us to the consideration of degenerate communities, and we have found them in almost every county where careful studies of the population living in out of the way places have been made. That it behooves this state to know something about its population, is our conclusion, because from such degenerate communities, so far removed from social influences that their existence even is not known to most of the people in the county, certainly in the state—from such localities where the degenerates are bred, go forth a stream of people who constitute certainly a large proportion of the paupers, beggars, the thieves, burglars, and prostitutes who flock into our cities.

Statistics on Comparative Fecundity

PROF. WALTER F. WILCOX

In my judgment, no statistical result could come from this Conference more valuable than a concerted effort to increase the available information regarding the comparative fecundity of the va-

rious strains in our population, for this information lying unused in the government files is of more value and importance than the entire sum of information on differential fecundity now possessed by the American people.

"Straight-on" Program

DR. LUTHER H. GULICK

The "Straight-on" program is for persons eighteen and over. A "straight-on" is a person who keeps his body, mind, and heart fit for their most splendid work by living straight-on.

The program is divided into three parts: Physical, Mental, and Spiritual.

A Straight-on should sleep not less than sixty hours a week. If you must sit up late, or are out late, pay up. Try to average at least seven hours of outdoor exercise each week. Keep clean inside and outside. Read, own and reread each year not less than three strong books having thought new to you. Carry on some course of study by mail or otherwise, a course of lectures or anything that means going on.

Be alone and think out your own ideals toward progress at least for four fifteen-minute periods a week. Get acquainted with some great poetical message each year.

Substitutes for Alcohol

DR. HENRY SMITH WILLIAMS

The best that I can hope, from my study of history and my knowledge of human psychology, is that we may substitute the milder drink for the stronger one, ultimately a still milder for that, and ultimately an altogether non-alcoholic one. That, it seems to me, is the principle we must attempt to apply.

Tax Liquor

DR. HENRY SMITH WILLIAMS

I would say, tax liquor—a modification of Senator Work's idea to put a very high tax on distilled beverages, double the present tax at least.

MRS. CHARLES KIMBALL AND ELIZABETH HEWES TILTON

The arrests for drunkenness having increased in Massachusetts 160 per cent in eleven years, we had a Commission to look into the matter. Doctor Southard invited this Commission to the Psychopathic Hospital and showed them one patient after another *clear out of their minds* from alcohol. Doctor Southard said, "Gentlemen, individual liberty is a doctrine very much in vogue. From it I will not dissent. But I wish to say that a state that licenses shops that sell insanity should pay out its millions liberally to support the victims of its hobby."

Tobacco Legislation

MELVIL DEWEY

We should control the sale of tobacco as the French do, and make it no longer an object for the small dealer to induce the boy to become a smoker.

Town Planning

FREDERICK L. HOFFMAN

There is the utmost urgency in the earliest possible adoption of rational town planning and cheap interurban transportation schemes, such as have become typified on the Continent and within very recent years in the United Kingdom.

REV. NEWELL DWIGHT HILLIS

The conclusion is that the factory region of the great city must be rebuilt. Down come hundreds of tenements, therefore. The new plan is a factory out in the center of an open field, then the houses where the people live on the side where the trade winds blow the smoke of the factory away from them. They have little houses within walking distance and playgrounds within two blocks of every child, plenty of breathing room and sunshine.

Vice Commissions

DEAN WALTER TAYLOR SUMNER

The Vice Commission of Chicago was the first vice commission ever established by a municipality and supported from the city treasury. Nearly thirty others have been appointed since that time and the remarkable thing about the vice commission has been this, that they have been unanimous in their decision. Now here you have groups of people, men and women all over the country, first of all a moral view-point, second, with full information. And what do we find as their decision? Briefly it is this. Any municipal officer of any municipality which recognizes the social evil is thereby committing an immoral act. Segregation does not segregate, never has and it never can. Furthermore, segregation does not solve even the remotest phase of the problem. Rather it aggravates and intensifies every phase of it. Regulation does not regulate. Rather it gives a false security to young men and boys and the only method to pursue is constant and persistent repression as the immediate methods, absolute annihilation as the ideal.

Vocations

MELVIL DEWEY

An appeal to the women of America with faith, hope, and courage, to put their education, their power of detail work, and any initiative they may possess at the service of the state, at the same time warning them that much harm has been done by indiscreet, pushing women with only a glimmer of knowledge who too often approach civic councils with some whim or fad, so that all women's demands are classed together.

PROF. ROBERT JAMES SPRAGUE

When we get free work in the open air for both men and women we will get such wholesome, strong bodies that many of these great problems we have been discussing will simply disappear because they won't exist. It seems to me that both men and women of our race have got to get to work in the open air and the extent to which we can do that will help to solve every one of these great problems we have before us.

In the United States the most of our criminals come from the roving bachelor class of the twenties. In this country we have an enormous number of young bachelors who come out from all parts of the country who have had no opportunity to learn a trade, with all the impulses of manhood. They struggle through those twenties and come to the cities before they get settled in life. Gentlemen, an efficient system for vocational education in this country will do many of those things that the German system of education is doing. It will land our boys and girls both, we will say boys, with an earning power at twenty-two or twenty-three so that they can marry at twenty-three or twenty-four or twenty-five, and support a family, and will do much for the reduction of our criminal classes, a large majority of which come from that very zone of life. It will accomplish much for doing away with the prostitution in this country, because every time a wage-earning boy marries a girl and establishes a home under the right conditions, he removes the material for all of that kind of thing.

Education the Watch-Tower against Disease

E. E. RITTENHOUSE

Is there any sound reason why our communities should not have a watch-tower of education to inform people of their danger and to teach them how to detect their approach to degenerative diseases, which are on the increase?

Woman Suffrage

ARTHUR HUNTER

I am absolutely sure that the small advantage claimed for alcohol is upset many, many times by the evils which come from the use and abuse of it, and I am sure when the women get to vote, we are going to get freedom from it that we have never had in the past, and this one thing, more than any other, has made me an advocate of suffrage and a strong one.

DR. J. H. KELLOGG

The worst thing in all the world, the most dreadful thing, is the slavery of women to men. By and by the ballot will give women freedom. When women get the franchise, I believe the white-slave traffic, and all other kinds of slavery of women to men, will be abolished, and the world will be freed from this greatest evil.

DR. CAROLYN GEISEL

[To Women]

There will be thrust into your hands before very long (you cannot escape it) that little piece of paper called the ballot. It is as surely coming as tomorrow is coming, wanted or not. It doesn't matter—it is coming. Will you use it for the liberty of your sisters? Or will you say, "Leave politics to men"? If you must go into politics to liberate helpless little girls who are enslaved now, then do it. Do it as quickly as ever you can.

DR. GUILFORD H. SUMNER

If the manhood of this country will not respond to the call of this great reformation, then let the women take the reins of government into their own hands and rid the world of the destructive agencies that are destroying the motherhood, womanhood, and morals of the home. I mean by this that, should men not see the necessity of taking this advanced step, then it is time for women to take matters into their own hands and protect that which men refuse to do.

Women Jurors

GRAHAM TAYLOR

We must humanize our courts, and we will have to have women jurors. We will have to do what Judge Pickney, of the Juvenile Court, has done: see to it that a woman assistant judge hears the cases of delinquent girls in chambers with no one present except the children's parents and the witnesses. We will have to enlist all the agencies that lie back of the family life.

Waverly House

DR. S. A. KNOPF

We have established a house and we do not call it a Magdalene Home, but simply "Waverly House." There any poor girl tired of that life, who wishes to leave it, is received with open arms, given instruction, taught some kind of trade, and, if possible, is returned to her family or given an opportunity to earn an honest living. I believe we can do a great deal for them. We have thirty-three per cent of cures, and that is a good per cent. Thirty-three per cent of those unfortunate women have been returned to their homes, have been returned as useful and noble women and members of society. We have also looked after their physical welfare and have tried to make them healthy, as future mothers; for they are entitled to the same privileges that we are. Our little movement, which we call the "Waverly House," has also added a bit to the betterment of the race. I ask that you, going out, going home, will try to start such a movement and give your sisters another chance to be mothers also and thus help in the betterment of the race.

RESOLUTIONS

Resolutions Offered at the First National Conference on Race Betterment and Referred to the Executive Committee

PROF. WALTER F. WILLCOX, Cornell University, Ithaca, N. Y.

Resolved, That the National Conference on Race Betterment appoint a committee with power—

1. To memorialize the Congress of the United States in the name of this Conference, urging it to provide the funds needed for compiling the returns now on the schedules of the census of 1910 and thereby measuring the fecundity of the races and national elements within the United States;

2. To attempt to secure the presentation of similar petitions from other organizations or from individuals interested in this subject.

Whether such a resolution would be welcome or not, I sincerely hope that individuals will write to individual Congressmen, urging such action as is here proposed.

MELVIL DEWEY, Lake Placid, N. Y.

Resolved, That the marked success of this first Race Betterment Conference, and its great promise of future practical usefulness, clearly show the need of continuing its work in annual or biennial meetings.

[How many think they ought to be annual or biennial meetings?] [A big show of hands.]

Resolved, That the present Executive Committee be asked to serve as a permanent Executive Board with power to add to their number, to call meetings, appoint committees and in all matters act for and represent this Congress.

[Certainly the five men who have organized this meeting have our confidence in carrying on future work and in representing us. Those of you who favor this resolution, please show your hands.] [Many hands raised.]

Resolved. That we ask the Executive Board to appoint a Race Betterment Council of One Hundred, representing various sections and agencies interested in Race Betterment, and also to provide for affiliating with this Congress such institutions and organizations as will cooperate in its work.

[So many have said, especially the women, that they wanted to be identified with this that the Women's Club, the State Federa-

tion of Women's Clubs, are ready to take hold and to carry on this work. How many are in favor of this resolution?] [Many hands raised.]

Resolved, That all resolutions submitted to the Congress shall be referred to the Executive Board, which shall make needed revision in such as it deems wise to submit to vote of the Congress or Council; and no resolution or recommendation shall be promulgated as the action of Congress, Council or Executive Board unless approved by a four-fifths vote.

[If four-fifths are agreed on the recommendation of a Committee, it may go out as fairly representing, but if sixty vote for it and fifty against it, it is not fair to commit the rest to that. This is protection against some earnest souls who mean all right, but are always trying to get in a resolution. After an eloquent speech you can carry almost any audience before they have had time to give the matter careful consideration. How many approve of this principle?] [Many hands shown.]

[And finally, you know at the great Panama Exposition, one year from now, the leading congresses of the world interested in all kinds of work and welfare will hold meetings, and that the questions that have been before us here are not American questions, but they are race questions. It would be most unfortunate if this Congress that has made this wonderful start should not be represented at San Francisco; if it is not, the interests are surely to be represented in some other way, and many feel that this resolution would fairly express your sentiment. How many think this is desirable?] [A few hands raised.]

Resolved, That we recommend the Executive Board to arrange for a meeting of the National Conference on Race Betterment in connection with the international meetings during the San Francisco World's Fair of 1915.

CRESSY L. WILBUR, M.D., Chief Statistician, United States Census Bureau, Washington, D. C.

WHEREAS, Accurate statistics of births, still births, deaths, and the causes of illness, disability and deaths, are indispensable for intelligent progress in race improvement; therefore,

Resolved, That the National Conference on Race Betterment earnestly recommend the passage of adequate laws for this purpose and the thorough enforcement, by the regular and systematic application of the penalties therein contained, of existing laws, so that the United States may possess, at the earliest possible moment, useful vital statistics covering its entire population.

MR. H. H. LAUGHLIN, Superintendent Eugenics Record Office, Cold Spring Harbor, Long Island, N. Y.

"I should like to see this Convention go on record, if it chooses, as favoring the sterilization of proved degenerate stock when segregation ceases."

MR. GEORGE B. PEAK, President Central Life Assurance Society of the United States, Des Moines, Iowa.

Resolved, That since it is an established and indisputable fact that the use of alcohol as a beverage is injurious to the mental, moral, and physical condition of man, and that its injury is continued to the children of those who are polluted by its use, we therefore—

Resolve, That the saloon business is the great foe to race betterment; it is a burden upon civilization and there are no good results from it; it lives by the destruction of the most valuable asset of the world—man. We, therefore—

Resolve, That all lovers of the race should unite in the final closing of the saloon and the overthrow of the liquor power, that conditions may be more favorable for race improvement.

DR. LUTHER H. GULICK, New York, N. Y.

[NOTE.—Doctor Gulick was delegated to sum up the expressions of the Conference in "six or seven minutes."]

To sum up a Conference on Race Betterment in six or seven minutes in the terms in which the ideas have been expressed is impossible. What I have attempted to do is to put together the constructive part of this Conference as expressed in the program, in private conversation, or merely in the atmosphere. This will be followed by a resolution which I shall move be referred to the Executive Committee.

We believe that the core of Race Betterment consists in promoting more and better homes.

1. *Domesticity.*

To this end we believe that the love of home and domestic things needs to be given opportunity that is rarely found today. The first and most important nascent period for the domestic instinct comes in girls before they are twelve. To give opportunity and incentive and tradition in playing house and playing with and loving dolls, we regard as basal to the building up of those desires that lead people to prefer home and children to other careers. No subsequent training in domestic science or art can take the place of the love of home and of children.

2. *Inheritance Social Tradition.*

We believe that the transmission of psychic character is sacred in the same sense as is the transmission of physical life and that both should be kept inviolable. We think, therefore, that children should never be predominantly entrusted to the care of nurses. Much of home work may be done by others, but when the relation of mothers to their children is taken by nurses or other women, the essence of the home itself has disappeared.

This relation of parents to children must provide for them enthusiastic leadership in wholesome adventure. As children grow older, parents will need to cooperate in groups and make use of the specialist and genius. The mere providing of space, time, and implements is no more adequate for the induction of a higher child life than it is for adult life. Tradition, leadership and genius is as necessary in the one case as in the other.

3. *Inheritance Germ-Plasm.*

The splendor of love is to be achieved most readily by those in whom the sex feeling is long circuited into noble action before it acquires any habit of direct expression. Hence our informational work must be accomplished before children reach the teens.

We must make the factors of personal and race betterment matters of every day, as are breakfasts, sunsets, and the opening of flowers. All of the children's questions should be answered truthfully, irrespective of age. Children will remember only what they are physiologically ripe for. We must make the dangers to the personal and race stream as common knowledge as are the dangers of fire and accident. The sources of this guidance should be those who are in daily relations of affection to the children. These subjects should not be separated from the rest of life. The time for information about mating is before the rapture of love has come with its transfiguration of form and revelation of color.

In the foregoing I have avoided the use of the terms sex hygiene and sex instruction because many of us object to these terms; for they imply a divorce between these matters and the spiritual and esthetic world. We wish our children to have all the information belonging under these terms, but wish to have it given with the larger significance of its relation to the whole of life.

Inasmuch as there is at present no source from which authoritative, simple information can be secured with reference to the subjects of better mating and better rearing, therefore—

Be It Resolved, That the Executive Committee be requested to consider the advisability of forming a Race Betterment League.

REPORT OF THE SECRETARY

The idea of calling a National Conference on Race Betterment was initiated by the Reverend Newell Dwight Hillis, Pastor of Plymouth Church, Brooklyn, N. Y. He presented it to Dr. J. H. Kellogg, Superintendent of the Battle Creek Sanitarium, who in turn presented it to Prof. Irving Fisher, of Yale University, and to Dr. C. B. Davenport, Director of the Carnegie Station for Experimental Evolution, and to others interested in hygiene and eugenics. As a result of the enthusiastic approval with which the idea was met by everyone, a central committee was formed and a secretary appointed. The Battle Creek Sanitarium, Battle Creek, Michigan, extended to the Conference the gratuitous use of its facilities and entertainment. Accordingly, the Sanitarium was chosen as the meeting-place for the Conference, and the date was set for Thursday, Friday, Saturday, Sunday and Monday, Jan. 8th to 12th, 1914.

Sessions and Speakers

The first session of the Conference was called to order in the Sanitarium Chapel at 10.30 A. M., Thursday, January 8th, by Dr. J. H. Kellogg, the official representative of the Battle Creek Sanitarium, as host of the Conference. There were with him on the platform Hon. John W. Bailey, Mayor of Battle Creek; Dr. Stephen Smith, of New York, President of the Conference; Dr. J. N. Hurty, of Indianapolis; Hon. Jacob A. Riis, of New York; Dr. S. Adolphus Knopf, of New York; and the Rev. Charles C. Creegan, of Fargo, N. Dak. The attendance of the meeting so far exceeded the expectations of the organizers that some two hundred people were unable to enter the auditorium.

Prayer was offered by Reverend Dr. Creegan. Doctor Kellogg then extended a cordial welcome to the Conference, in a short address, and introduced the Mayor, who extended a welcome to Battle Creek of the First National Conference on Race Betterment.

The aged President (ninety-two years old), personally typifying the aim for which the Conference was called—a long, efficient, and happy life for every citizen—was then formally introduced to the delegates, amidst enthusiastic applause.

President Smith then called upon Reverend Dr. Creegan to preside as Acting Chairman, and to conduct the proceedings of the Conference in behalf of the President.

The Conference then proceeded as nearly in the order of the

printed program as one or two late necessary changes in engagements of speakers, and a number of additions to the list, would permit.

The Thursday evening session and all sessions thereafter, except those for Monday, were held in the spacious gymnasium of the Sanitarium, with audiences at each session of from fifteen hundred to two thousand people. The Monday morning session was held in the Sanitarium chapel, and the afternoon and evening sessions of that day were held in the Post Theatre. There the entire stage area was filled with seats and the auditorium itself was packed to overflowing.

The officially registered delegates from different parts of the country numbered 406.

Each session was opened by prayer. Those who led these devotions were Rev. C. C. Creegan, Rev. J. W. Beardsley, of the Theological Seminary of Holland, Mich., Reverend Dr. Bishop, of Grand Rapids, and Dr. E. G. Lancaster, of Olivet College, Mich.

The Battle Creek Ministers' Association voted to make the Sunday during the Conference as "Race Betterment Day" in the churches, and selected their topics accordingly. The pulpit of the Independent Congregational Church was supplied on Sunday morning by one of the speakers on the Conference program, Dr. Guilford H. Sumner, and the pulpit of the First Congregational Church was supplied Sunday evening by another Conference speaker, Mr. F. O. Clements.

The names of the following speakers did not appear on the original program, as the final engagements with them were closed after the program went to press:

Prof. Sidney L. Gulick, Kyoto, Japan.

Mr. F. O. Clements, Dayton, Ohio.

Dr. James T. Searcy, Superintendent Alabama Hospitals for Insane.

Dr. Anna Louise Strong, National Child Welfare Committee, New York, N. Y.

Mr. S. S. McClure, President S. S. McClure Co., New York, N. Y.

Dr. Lydia Allen DeVilbiss, of the *Woman's Home Companion*, New York City, spoke in place of Mrs. Anna Steese Richardson.

Besides the addresses scheduled for them, the following made additional addresses:

President Stephen Smith.

Dr. Carolyn Geisel.

Dean Walter Taylor Sumner.

Mr. F. O. Clements.

Dr. William W. Hastings.

Mayor John W. Bailey.

On account of a strike among the miners in the northern part of the state of Michigan, Gov. Woodbridge N. Ferris was unable to attend and address the Conference, and no paper by him, therefore, appears in the printed records. The Governor sent his cordial greetings to the Conference, and expressed keen regret at his inability to attend.

Doctor Warthin's paper does not appear in the Proceedings, although it was considered one of the most absorbing addresses delivered at the Conference. Mrs. Ella Flagg Young, Dr. Thomas Darlington, and Dr. C. A. L. Reed sent late regrets for their inability to attend and give the papers scheduled for them.

Besides the regular formal sessions, five additional sessions were held for open discussion. These were presided over by Mr. Frederick L. Hoffman, by Dr. Melvil Dewey, and by Dr. J. H. Kellogg for different sessions. These meetings were largely attended, and the discussions were lively. A report of them appears in the printed transactions, in addition to a full report of the formal addresses.

On Sunday evening of the Conference, three sessions were held simultaneously—one in the Sanitarium gymnasium with an audience of about seventeen hundred "women only;" another in the Sanitarium chapel, with an audience of nearly one thousand "men only;" and a third in the Independent Congregational Church of Battle Creek, presided over by Rev. Thornton Anthony Mills.

Usefulness of the Conference

The Conference served as a forum for the presentation of all sides of Race Betterment questions. One of its notable features, which proved its need, and the possibilities of its usefulness, was the large number of practical suggestions which were brought out, and upon which definite action is possible. The suggestions are abstracted and listed in these transactions.

All business matters of the Conference, and all plans for future action, were left in the hands of the Executive Committee. A date was set for its meeting soon after the close of the Conference to discuss the subject of its fields of usefulness, and to make plans for promoting its aims.

A number of expressions of gratitude were voted to different members of the Conference during the various sessions.

Mental and Physical Perfection Contests

Mental and Physical Perfection Contests were held in connection with the Conference, and attracted wide attention, not only in Battle Creek, but throughout the state and the nation. Several thousand school children and about six hundred babies were tested as to their mental and physical efficiency, from which tests valuable data were obtained for Race Betterment purposes. The score card by which the school children were recorded was furnished by Dr. Frank E. Bruner, of the Chicago Board of Education and by Dean William W. Hastings of the Normal School of Physical Education, Battle Creek. The tests were made under the direct supervision of Dean Hastings. The score card by which the babies were recorded was furnished by the Better Babies Bureau of the *Woman's Home Companion*, of New York City. The women's clubs of Battle Creek assisted in this contest, as also the Sanitarium Hospital Training School and the Nurses' Alumni Association and doctors from the city and from the Sanitarium. Special assistance was rendered by Drs. B. N. Colver and W. F. Martin who devoted much of their time to the work. Drs. Roth, Allen, Kimball, Holes, Powers, Eaton, Putman, Hoyt, Mosher, Stoner, Hubly, Dryden and Vandervoort-Stegman also rendered invaluable assistance in the critical examination of the many hundreds of children of all ages who entered into the contest.

At the last session of the Conference, prizes were awarded to the children scoring highest in each year's group from six months to nineteen years. The prizes were in the form of gold medals stamped with the official insignia of the First National Conference on Race Betterment. In connection with the baby contest, educational literature was distributed on the subjects of "Suggestions to Mothers about the Care of Babies and Young Children," and "Feeding of School Children." The dentists of Battle Creek made special examinations of the teeth of the school children, and rendered a report, which appears in the Proceedings. Educational literature on this subject was distributed.

These contests resulted in numerous hygienic reforms in the city of Battle Creek. Through the cooperation of the Superintendent of Schools, an open-air classroom was established; as was also dental inspection, better ventilation, and the elimination of basement classrooms.

One interesting outcome of the baby contest was the adoption, because of the good record it made, of a baby that had been deserted by its father.

Exhibits

A large exhibit was shown in the Sanitarium Annex. Nineteen organizations working for Race Betterment participated. These exhibits attracted wide interest, and were visited by one thousand parents of Battle Creek, in addition to every school child in the city, the Conference delegates, and Sanitarium patients. Twelve experienced guides piloted the people through the various exhibits, where fifteen explainers were stationed.

Moving Pictures

Moving pictures were shown at every session of the Conference, and additional pictures were shown at special hours in connection with the exhibits.

Entertainment

The delegates to the Conference were housed in the huge Sanitarium Annex, which was given over entirely to their use. The large, cheerful lobby, with its inviting wood fire, offered an attractive informal gathering-place.

On Friday afternoon the members of the Conference were entertained by the Battle Creek Chamber of Commerce. Special cars took the Conference members through the city of Battle Creek, through one or two of its larger manufactories, where refreshments were served, and to the Athelstan Club, which furnished a musical entertainment. On Saturday afternoon a male quartette entertained the delegates in the Sanitarium gymnasium.

The Social Secretaries of the Sanitarium were put at the service of the delegates, and their offices were devoted to making the Conference a social success. On Saturday a reception was held for the purpose of formally introducing those delegates who had not already met one another.

The Sanitarium gymnasium facilities were thrown open to the Conference delegates, where they participated in the athletic exercises, the marches and drills.

The Sanitarium lent to the delegates' dining room, in the Annex, a number of its dietitians, to promote the dietary comforts of the guests. The Sanitarium orchestra was also furnished to the Annex throughout the sessions.

On Saturday evening a "Doctors' Banquet" was held, with Dr. Victor C. Vaughan, of Ann Arbor, Mich., President-Elect of the American Medical Association, and Dr. Lillian H. South, one of the

Vice-Presidents of the same Association, the only woman who ever enjoyed this distinction, as guests of honor. The banqueters were entertained by witty and enthusiastic speeches.

After the Conference sessions were terminated, a banquet was tendered to the thirty-four prize winners in the Mental and Physical Perfection Contests and their parents. On following days banquets were tendered the teachers of the city schools, and to every employee who participated in the Conference, and to every local associate of it, to the number of 1,000.

The President's Departure

An affecting incident during the twelfth session (Monday morning) of the Conference was the farewell of the venerable President, Dr. Stephen Smith, when he was obliged to leave for New York before the session was over. As he finished his farewell remarks and passed down the aisle, the audience arose, and a voice started, "God be with You till We Meet Again." Immediately the song was taken up by every voice in the room.

The Press

The press showed a remarkable interest in the Conference. Advance notices of the meetings were sent out by the Associated Press, the United Press, the Western Newspaper Union, and other agencies. In all, the publicity before and during the Conference totaled probably a million lines. During the Conference the following news associations and newspapers were represented: the Associated Press, the United Press, the Scripps-McRae League, the Associated Newspapers, The Detroit *Free Press*, the Chicago *Tribune*, the Detroit *News-Tribune*, the Cincinnati *Enquirer* and Chicago *Record-Herald*, New York *World*, New York *Herald*, Philadelphia *Record*, and the Pathe Weekly moving picture firm, whose films are shown to 20,000,000 people. Cable despatches by news agencies to London and Paris papers carried the news of the Conference abroad. Post-Conference publicity includes articles in medical, scientific, economic, and other journals throughout the country. The *Journal of the American Medical Association* sent a special writer, and devoted a generous space to reporting the Conference. The Michigan State Board of Health devoted a monthly bulletin to a summary of the papers of the Conference.

EMILY F. ROBBINS, *Secretary*.

EXHIBITS

Exhibits were shown by the National Child Welfare Exhibition Committee, the American Association for Study and Prevention of Infant Mortality, the Michigan State Board of Health, the Michigan State Tuberculosis Society, the Committee of One Hundred on National Health, the Battle Creek Health Department, and several other Battle Creek organizations. These exhibits included moving pictures and living demonstrations, and covered the subjects of—

HEALTH

National Department of Health
Infant Mortality
Care of Babies
Children's Diseases
Milk Records
Food Buying
Food Inspection
Dental Clinic
Open-Air Sleeping

PLAY

Home Playroom
Backyard Gymnasium
Boy Scouts
Camp Fire Girls
Public Recreation
SCHOOLS
Social Centers
The School Building
Medical Inspection
Open-Air Schools
Educational Training

The exhibition was made under the supervision of Dr. Anna Louise Strong, representative of the National Child Welfare Exhibition Committee, New York, N. Y.

THROUGH A CHILD'S EYES

ANNA LOUISE STRONG, PH.D., National Child Welfare Exhibition Committee, New York, N. Y.

When I left the Annex to come down this afternoon, crowding through the halls and in through the various rooms and in front of the charts, and near the exhibit of foods were, I presume, at least two hundred children. That is probably a conservative estimate. It is not counting the adults and it is not counting the nearly three thousand children who have gone through that exhibit during the past five days. But the interesting part of it was, that those children, many of them, were taking notes. Some of them had long pieces of paper and note-books pretty well filled with information about the welfare of the child—about the kind of food they ought to eat, about the kind of toys the children ought to have and the way the baby ought to be looked after. Those children were taking notes to use in compositions in the school. I went up to one child

and said, "It looks to me as if there were going to be a great deal of competition here." She smiled and said, "I am afraid there will be so many there will hardly be any prizes, but," she added, "I am not trying to get a prize. I am just writing my composition." And I thought that was probably the attitude of perhaps many of the mothers who came to the better babies contest, that they were not trying for the prize, but it was to find out how their baby stood. If they got the prize they were very much pleased, but they wanted first of all to find out what they could do for their baby, just as the children are up there now trying to find out these various facts for their composition.

This child welfare exhibit is part of a rather large movement that has spread over the country in the last three years, beginning with a large exposition in New York three years ago this month, then one in Chicago, then spreading to Kansas City, St. Louis, Louisville, Montreal, Providence, Rochester, and other places, with a total attendance of more than a million and a half people in the past few years. I have just heard that as a result of the Exhibit which I managed in Rochester last spring, they have secured a recreation commission. The Mayor of the city was so impressed with the playground part of the exhibit that he sent to New York to get a playground expert to survey the situation and make recommendations. Another result was the introduction into the public schools of courses for mothers. They hope to be able to manage courses for mothers in questions of personal hygiene and the care of babies. Another result of that same Rochester exhibit is the formation of a society that is going to put up inexpensive workmen's homes.

I think the thing that will be of most interest today will be to tell you what I have learned from the child welfare exhibits of the sort of things that children notice, the kind of things that affect children. I have been tremendously impressed, in collecting compositions relating to child welfare in some of these past exhibits, to find out how very detailed the knowledge of children is, how much more they see about their own home than the parents realize, how much more they see of the turmoil in the home than the parents know, and of the various conditions in the home which the parents themselves are perhaps insensitive to. I am going to read one extract from a composition. These compositions which I have today were not written after taking notes, but without any warning, in school, a week after seeing the exhibit. They were asked to write about the exhibit off-hand. If any adult goes into a room, he notices in that room the immediate things that are to serve an im-

mediate purpose. You have gotten into the habit of dropping out of your notice a great many things that you are not especially interested in, and for that reason I think you will be very interested in seeing the number of things the child notices in one of these exhibits. This was a girl of ten describing a tidy and an untidy room:

"Then in a corner opposite that it showed how dirty people keep their houses. The room was dirty, old clothes on the bed that was half made. The kitchen was dirty and dusty and a can of tomatoes emptied out into the dishpan with greasy rags dripping above them and dripping into them; and the table cloth was all dirty and mussed up, and there was some sauerkraut and cabbage mixed together and cooked an hour or two too long. The coffee was the strongest I have ever seen in my life and I don't believe I shall ever see any more as strong as that as long as I live, and there was not any milk for it, and the pickles were mouldy enough to kill any child, and the sausage was terrible."

Do you think you would remember that much about the exhibit a week after it was over? But these are the things the children notice and these things have a very distinct bearing upon the influence in the home.

One other story: A small boy in Providence was seen by a man going up to this same exhibit, of good and bad homes, and looking into the bad bedroom. After a while two more small boys came and remarked, "Huh, to our house ain't any of them like that," and they went on. The boy went away, came back after a little while with a rather slatternly looking woman, and a little while the discussion went on in low tones, then his voice rose and he said, "Mother, those boys said their house wasn't like that. Why is ours?"

Another thing I want to mention, first, the extent to which children notice things, then the extent to which they are ready to go ahead and act on what they have noticed. In that connection I want to read another very short and rather pathetic composition of a boy after the Rochester exhibit:

"The good food and bad are almost what I take, but I don't drink coffee any more and will not take it. My brother used to have coffee every meal, but since my mother was there, he drinks no coffee but all milk and bread. Bread is about the only good food there is, and I have had lately a good appetite for it."

There is one more story. That is to illustrate this same point, the extent to which children act upon the things they notice; the extent to which children who have noticed what harm the pacifier

does the baby, will go to take it away when we adults who know more about it would not do so. This boy was a Chicago boy and he wrote to his teacher after coming back from his summer vacation and after he had seen the child welfare exhibit, and the composition was sent on up to Mrs. Ella Flagg Young. He said, "I went out to the country to spend the summer with my aunt, who had a baby that was crying all the time. She said she thought the baby was very cross. The next day it cried, and I said I thought perhaps it was because she gave the baby too much solid food, because it said in the Child Welfare Exhibit that babies should not have solid food. My aunt said, 'All right.' So she took it off solid food and gave it only milk for a while and the baby wasn't crying nearly so much. Then I said to my aunt I thought the baby needed more fresh air because it was very hot to keep the baby indoors and under the heavy covers and mosquito netting, and it ought to go out doors. She told me to take the baby out in the yard and I did and looked after it. And when I came back home in the fall, the baby was not crying at all."

MOVING PICTURES

The Following Series of Moving Pictures and Lantern Slides were Shown
During the Conference:

- Industrial Welfare Work
- The Fly Pest
- Boil Your Water
- The Battle Creek Chautauqua
- The Man Who Learned
- Paragon Chestnuts
- The Walking Party
- Bread the Staff of Life
- The Normal School of Physical Education
- Battle Creek Homecoming Week
- Rochester Playground Film
- The Visiting Nurse
- The Price of Human Lives
- Care of Blind Babies
- Dissolving Stereopticon Views
- Lakewood Farm
- The X-Ray—Its Revelations
- Brain and Nerves
- Eugenics and Venereal Diseases

PHYSICAL AND MENTAL PERFECTION CONTESTS

I. SCHOOL CHILDREN

WM. W. HASTINGS, PH.D., Dean Normal School of Physical Education,
Battle Creek, Michigan.

The object of this contest is to call attention to the practical side of Race Betterment. Little can be done for the improvement of adults; the hope of the race lies with the children. Any scheme is worth while, then, which will interest the children in themselves, and interest the parents of the children in their development.

No plan is likely to emphasize so fully in the mind of the child the value of health, vigor and efficiency as the giving of medals to those possessing physical and mental perfection. Such a contest holds up to the child's mind as most desirable many qualities which had previously seemed to him common and ordinary. His mind is led, by practical observation, to distinguish some of the most essential factors in the building of his own life. Teachers and parents are led to observe physical defects and mental deficiencies, and to remove the cause.

One of the most important results which must accrue from such general examinations—one which has always been observable in every campaign of the kind—is the surprising prevalence of race degeneracy, as indicated by poor teeth, defective eyesight, spinal curvature and other postural defects.

When it is the children of our own community who are found on the decline, we begin to think it is time to act, and cannot content ourselves with hearing sober warnings in scientific conventions and with reading them in the leading magazines.

The task of selecting from the public schools the children whose development entitles them to gold medals is completed. With the best possible organization of forces, it took thirty observers seven days to complete the physical tests of the children of Battle Creek. The separate testing rooms provided for boys and girls of each school presented the appearance of an almost continuous stream of young humanity passing the various pieces of apparatus at the rate of between one or two per minute.

The students of the Normal School of Physical Education are to be congratulated on having such a fine opportunity of testing and estimating the development of the type of children whom they are planning to serve in the near future. The city is to be congratulated upon having such an effective school as this in its midst. We trust



Mental efficiency test in Battle Creek Public School.

that these physical tests will be repeated, if possible, twice a year in a more leisurely fashion and that the children will be given copies of their measurements in a form which will indicate to them how well they are developed and in what they fail to conform to the normal.

If such measurements could be taken twice a year, in the fall and in the spring, the interesting and instructive observation of the parallel of the growth of plant and human life would be apparent. We know from Malling-Hansen's researches in Copenhagen, and those of Mr. George Pinneo and myself in Springfield, Mass., that children, like plants, stretch up in height in the spring and fill out in weight thru the increase of storage matter in the tissues during the fall and winter. We know that they grow in waves and have periods of acceleration, but we should like to know how our own children grow, why they do not grow more consistently; we should like to have someone point out their defects and help us to remove them. When half the children in the United States are hindered in their growth by various defects, when ninety-seven per cent of them have defective teeth, it is surely time to look into the underlying causes and attempt to remedy them.

TABLE I. METHOD OF SELECTION, SHOWING PROGRESSIVE ELIMINATION

	<i>Boys</i>	<i>Girls</i>	<i>Total</i>
I. Total Number of Children Examined.....	1724	1813	3537
II. Total of Normal Children	281	265	546
III. Total qualifying as Best Representative of Age in Grade Schools and of grades in High School and Departmental School	93	97	190
IV. Total of Group III passing Teachers Grade Standard, Classes A and B (over 85 per cent).....	93	81	174
V. Total of Group IV passing as Normal in Mental Test.....	45	44	89
VI. Total of Group V passing Dental Test	7	9	16
VII. Total of Group VI passing Eye, Ear, Nose and Throat Test	6	8	14
VIII. Real Medal Winners—Best of Age	6	5	11

METHOD OF SELECTION

I. The whole number of children examined in Battle Creek schools was 3,537; 1,724 boys and 1,813 girls.

II. All children found to be within the limits of normal variability and above were selected.

1. Children who were under the twenty-five-per-cent grade of those of the same age and sex in *height* were dropped. The standards used were Hastings' Age Tables. (See Hastings' Manual for Physical Measurements.)

2. Out of the group so selected, the children were chosen who did not deviate in any of their measurements below the twenty-five-per-cent grade of those of the same *height*, *age* and *sex*. The standards used were Hastings' Age-Height Tables. By this method 281 boys and

265 girls were classed as normal children, 546 children in all out of 3,537.

III. The best-developed child of each age in the grade schools and the best child of each age of each grade in the departmental school, and the best of each age of each grade in the High School, were selected from the foregoing group of normal children. The method employed did not take into account absolute symmetry, but rather size, strength and vitality.

The table of per cents by which these children were graded follows. As will be noted, a certain percentage for each measurement is allotted for conformity to the standard for the sex, age and height. One additional point is scored for added development to the amount of the probable deviation above the normal, that is to say, normal Lung Capacity for age twelve, height 140 centimetres (55 inches), for boys is 1.9 litres (116 cubic inches). The boy who has this development receives twelve per cent credit for the same.

A boy who is at the seventy-five-per-cent grade in development, 2.1 litres (128 cubic inches), receives one point more, or thirteen per cent; one who deviates above the mean value or normal by double the amount of the deviation of the seventy-five-per-cent line from the mean, twice .2 litres or .4 litres (28 cubic inches), is said to have 2 d or twice the probable deviation and receives two per cent, making his total fourteen per cent; 3 d or more gives him fifteen per cent, the utmost credit which can be given for Lung Capacity in reckoning the nine qualities measured on the basis of a total of one hundred per cent credit.

The following table illustrates the method of physical estimation:

RELATIVE PER CENTS FOR GRADING THE DEVELOPMENT OF NORMAL CHILDREN ACCORDING TO THEIR MEASUREMENTS

			<i>Maximum Minimum</i>	
Vital Function	Max. 45	Min. 36	{ Chest Expansion	15 12
			{ Lung Capacity	15 12
			{ Respiratory Height Coefficient	15 12
Vital Size	Max. 31	Min. 24	{ Breadth of Chest	15 12
			{ Depth of Chest	8 6
			{ Height Sitting	8 6
Weight and Strength	Max. 24	Min. 18	{ Weight	14 12
			{ Strength R. Forearm	5 3
			{ Strength L. Forearm	5 3
Total	100	78		

In getting the percentage standing of a given child, reference is made to the Age-Height table and section to which his height entitles him to be compared. The amount of his deviation from the type presented in this height section is calculated for each quality in which he has been measured, and divided by the probable deviation \pm to se-



Group of prize-winners (older children) in Mental and Physical Perfection Contests.

cure the ratio to the probable deviation and thus determine how many units and tenths of units up to the allotted number of the table are to be added to the minimum per cent allowed. Only two per cent to three per cent above the minimum is allowed.

OBSERVATIONS

1. In the interests of symmetry, bone-lengths and girths could not be treated like the foregoing measurements. No variation of more than d , the probable deviation, could logically be allowed for them.

2. From the point of view of growth, health and vigor, no maximum limit of deviation above the normal should be assigned, for the greater the chest expansion, breadth of chest, etc., the more vigorous the individual. In recognition of the claims of symmetry, however, not more than three per cent excess was given for any quality, even the most favorable. Excess of weight above $2d$, twice the probable deviation, was estimated to be excess in fat as a rule and not of value to physical efficiency.

Dept of chest, height sitting and strength were not accorded so large a place as other measurements in reckoning the physical standing of the child. Growth of breadth of chest is one of the signs of maturity; excessive depth, a barrel-shaped chest, at least, is the typical phthisical chest, the characteristic chest of immaturity. The whole effect of this mode of selection was to count vital strength and health more than symmetry and graceful lines in the selection.

3. As the result of the use of this mode of selection, out of 281 normal boys and 265 girls, ninety-three boys and ninety-seven girls were selected as the best representatives of their age in those schools.

Number of children qualifying as the best of each age from each of nine grade schools, from each grade (7th and 8th) of the departmental school and each class (9th, 10th, 11th, and 12th grades) of the High School.

<i>Age</i>	<i>Boys</i>	<i>Girls</i>
5.....	2	1
6.....	7	6
7.....	5	7
8.....	7	6
9.....	7	9
10.....	8	8
11.....	9	10
12.....	8	8
13.....	10	10
14.....	9	11
15.....	7	7
16.....	5	5
17.....	4	4
18.....	3	3
19.....	2	2
	<hr/> 93	<hr/> 97
		Total, 190

IV. Group III were then submitted to the test of the teacher's average grades and all eliminated who were below eighty-five per cent.

No one was accepted who was not of the B, a or A class standing. Ninety-three boys and eighty-one girls, a total of 174 students, survived this test.

V. Of this 174 students, forty-five boys and forty-four girls qualified by the conditions of the Mental Test. It was not intended that any but the most exceptional student should make one hundred per cent. The time allotted for the tests prevented this and made comparative statement of ability possible.

TABLE OF NORMAL STANDARDS FOR MENTAL TESTS BY GRADES

Grade I75%	<u>50.38</u>	Grade VII75%	<u>61.15</u>
Deviation 6.6250%	<u>43.75%</u> Type	Deviation 3.9050%	<u>57.25%</u> Type
	25% <u>37.12</u>		25% <u>53.35</u>
Grade II75%	<u>57.25</u>	Grade VIII75%	<u>68.49</u>
Deviation 7.5050%	<u>49.75%</u>	Deviation 5.1250%	<u>63.37%</u>
	25% <u>42.25</u>		25% <u>58.25</u>
Grade III75%	<u>57.45</u>	Grade IX75%	<u>72.25</u>
Deviation 6.1750%	<u>51.28%</u>	Deviation 5.2550%	<u>67.00%</u>
	25% <u>45.11</u>		25% <u>61.75</u>
Grade IV75%	<u>52.57</u>	Grade X75%	<u>57.00</u>
Deviation 3.6450%	<u>48.93%</u>	Deviation 4.0050%	<u>53.00%</u>
	25% <u>45.29</u>		25% <u>49.00</u>
Grade V75%	<u>55.56</u>	Grade XI75%	<u>71.00</u>
Deviation 5.0650%	<u>50.50%</u>	Deviation 2.0050%	<u>69.00%</u>
	25% <u>45.44</u>		25% <u>67.00</u>
Grade VI75%	<u>56.96</u>	Grade XII75%	<u>68.75</u>
Deviation 4.2950%	<u>52.67%</u>	Deviation 6.2550%	<u>62.50%</u>
	25% <u>48.38</u>		25% <u>56.25</u>

Any student whose deviation from the typical ability of the grade made him fall below the twenty-five-per-cent line, was cast out of the competition.

VI. Out of those who passed the mental test the Battle Creek Dental Association found only seven boys and nine girls who qualified as having practically perfect teeth. They discovered enough children of each age to be deemed worthy of the gold medals for their teeth but lack of other qualities caused them to fail to appear in the competition.

The following is a statement of the condition of the teeth in 561 of the most normal children in Battle Creek:

Number Children Examined.....561	With Dirty Teeth312
Boys229	Boys142
Girls332	Girls170

Practically Perfect	88	With Filthy Teeth	16
Boys	43	Boys	8
Girls	45	Girls	8
With Decayed Teeth	316	With Irregular Teeth	252
Boys	137	Boys	109
Girls	179	Girls	143
With Clean Teeth	145		
Boys	36		
Girls	109		

VII. Of those who passed the dental test, six (6) boys and eight (8) girls passed the eye, ear, nose and throat test—fourteen in all.

VIII. And of these there were six boys and five girls who by the strict interpretation of the rules of the contest won their medals.

The following are the names of those who won by the method of selection as originally planned. Had there been time, however, the original plan contemplated submitting this group to an all-round strength, endurance and physical efficiency test, and to thorough medical examination.

<i>Girls</i>	<i>Age</i>	<i>Boys</i>	<i>Age</i>
Margaret Beck	6	Lum Kee	5
Vera Crowell	8	William Gage	6
Opal Miller	12	Chris Klemos	9
Rachel Neale	17	Niles Vedder	14
Alice Bekins	18	Wm. Hawley	17
		Trevor Adams	18

To satisfy the public expectation aroused by newspaper announcements, it was found necessary to select the best child of each age and sex from those who had passed all the tests and could be classed as normal in development, whether he approximated physical and mental perfection very closely or not. This was done hurriedly by a special committee of physicians cooperating with the statistical department. The following were adjudged medal winners by this committee at this time. Those children who won by the original plan of estimation are starred (*).

MEDAL WINNERS.

Boys *

<i>Name</i>	<i>Age</i>	<i>School</i>	<i>Grade</i>	<i>Phys.</i>	<i>Mental</i>	<i>School</i>	<i>Dental</i>	<i>Sensory</i>
-aabb* Lum Lee	5	4	Beginners		a	a	b	b
xaanaa* Billy Gage	6	11	First	x	a	a	a	a
xeaxx Edw. Lawrence	7	6	Beginners	x	c	a	x	x
xbacc Donald Potter	8	6	"	x	b	a	c	c
xaacx* Chris Klemos	9	2	2	x	a	a	c	x
cbxxa Cecil Charles	10	2	5	c	b	x	x	a
xxxxx Daniel Holton	11	5	4	x	x	x	x	x
bbxxx LaVerne Coates	12	1	6	b	b	x	x	x
caaxx Donald Lauer	13	4	5-2	c	a	a	x	x
xcxca* Niles Vedder	14	2	6	x	c	x	c	a
xbaxe Wm. Hastings	15	High	11	x	b	a	x	c
aaaab* Wm. Hawley	17	"	12	a	a	a	b	b
bxbbx Trevor Adams	18	"	10	b	x	b	b	x
baaba* Frederick Woodard	19	"	12	b	a	a	b	a

GIRLS

-aaaa Bernadine Stine	5	5	Beginners		a	a	a	a
xaaba* Margaret Beck	6	5	"	x	a	a	b	a
xbaxx Frances Shoup	7	8	"	x	b	a	x	x
bexcx Vera Crowell	8	8	1-2	b	c	x	c	x
xxxxc Myrtle Nutter	9	4	4-1	x	x	x	x	c
xacca Carol Spencer	10	9	4	x	a	c	c	a

	<i>Name</i>	<i>Age</i>	<i>School</i>	<i>Grade</i>	<i>Phys.</i>	<i>Mental</i>	<i>School</i>	<i>Dental</i>	<i>Sensory</i>
bacec	Gladys Berger	11	5	5	b	a	c	c	c
xexbx*	Opal Miller	12	8	5	x	c	x	b	x
aaaxa	Ruth Holder	13	Dept.	7-1	a	a	a	x	a
cbaxx	Theda Jones	14	High	10-1	c	b	a	x	x
cbaxx	Lucile Parish	15	No. 1	6-2	c	b	a	x	x
caxxx	Tacy Coon	16	Dept.	8-2	c	a	x	x	x
aaaab*	Rachel Neale	17	High	12	a	a	a	a	b
aacaa*	Alice Bekins	18	"	10-2	a	a	c	a	a

*Six boys and five girls won the prizes by the method of judging under which the Contest was originally planned.

<i>Places Won by Contestants</i>	<i>Total Scoring by Contests</i>				
a—First.	a4	a14	a16	a4	a9
b—Second.	b3	a7	b1	b6	b3
c—Third.	c5	c4	c3	cb	c4
x—Not among the first three of the age.	x12	x3	x8	x12	x12
	24	28	28	28	28

After the presentation of the medals, time was found for a more systematic estimation of the comparative development of the children deemed to be normal. With the assistance of Dr. Benton N. Colver, of the Sanitarium, and a committee of the Battle Creek Dental Association, the Statistical Department prepared the following statement as to those who won first, second and third places for each age and sex in each test.

These tables follow: "a" denotes first place, "b" second place, "c" third place, "x" means some lower rank. Children's names are given in the order of their rank or place (a, b, c, or first, second, third).

PHYSICAL TEST

<i>Boys</i>	<i>Per Cent</i>	<i>Age</i>	<i>Girls</i>	<i>Per Cent</i>	<i>Age</i>
1. Dewitt Price	94	6	1. Dorothy Mead	91	6
2. Clifford Lazarus	92		2. Helen Mitchell	90	
3. Cowell Closet	92		3. Doris McCrumb	89	
*Billy Gage			*Margaret Beck		
1. James Corwin	90	7	1. Juanita Ziegler	94.5	7
2. Norman McDonald	87		2. Janey Crillev	91	
3. Gerald Sharpsteen	86		3. Lillian Madison	85.5	
*Edward Lawrence			*Frances Shoup		
1. Leslie Acker	96	8	1. Minnie Richmond	95.5	8
2. Elgin Johnson	96		2. Vera Crowell	91	
3. Lawrence Walker	95.5		3. Kathryn June Armstrong	89.5	
Charles Casper	94				
Donald Potter					
1. Norman Haughey	92.5	9	1. Frances Poole	97.5	9
2. Frederick Kent	92		2. Martha Gwendolin Case	95	
3. Edwin Vary	89		3. Pauline Wagner	93	
Chris Klemos			*Myrtle Nutter		
1. Milford Boyce	96	10	1. Lucile Campbell	94.5	10
2. Maxwell Knight	94		2. Rhea Sullivan	92	
3. *Cecil Charles	90.5		3. Marian T. Bruce	90.5	
1. Edwin Ricketson	93	11	Thelma Boyd	90.5	
2. Lavern Potter	92.5		*Carol Spencer		
3. Lawrence Rogers	92				
*Daniel Holton					
1. Dean Wells	93	12	1. Marian Ginter	98	plus 11
2. *LaVerne Coates	92		2. Shirley E. Hale	98	
3. Lisle Bucklin	91		3. *Gladys Berger	94	
			Lenna Mae Canright	93	
1. Lyle Sharpsteen	90.5	13	1. Emily J. Marsh	97.5	plus 12
2. Woodbridge Johnson	87.5		2. Lucy Clark	97.5	
3. *Donald Lauer	84.5		3. Marguerite Dodder	96	
Gerald Dough	84.5		Thelma I. Perry	95.5	
1. John Barker	98	14	Opal Miller		
2. Alan Hastings	97.5				
3. Merrill Read	96		1. *Ruth Holder	98.5	plus 13
*Niles Vedder			2. Mary Seage	95	
			3. Gertrude Zanger	94	

DEVELOPMENT OF BATTLE CREEK BOYS

From SIX TO NINETEEN YEARS OF AGE

Compiled by Wm. W. Hastings, Ph. D., Dean of Normal School of Physical Education, Battle Creek, Mich.

Age	Observations	Per Cent	Weight	Height	Height Sitting	Breadth of Head	Length of Head	Breadth of Chest Contracted	Breadth of Chest Expanded	Av. Breadth of Chest Con. and Exp.	Depth of Chest Contracted	Depth of Chest Expanded	Av. Depth of Chest Con. and Exp.	Girth of Chest Contracted	Girth of Chest Expanded	Average Chest Expansion	Lung Capacity	Forearm Right	Forearm Left	Shoulder Retractors
6	122	75	22.25	117.33	63.78	14.73	18.71	19.19	21.28	19.40	13.04	16.14	14.01	61.36	65.45	4.29	1.10	9.44	9.09	8.77
		M	20.41	112.65	61.55	14.42	18.22	18.58	20.41		12.79	15.23		59.01	63.30		.96	7.14	7.05	7.16
		25	18.57	107.97	59.32	14.11	17.73	17.97	19.54		12.54	14.32		56.65	61.15		.82	4.84	5.01	5.55
7	133	75	23.36	120.73	65.71	14.84	18.71	19.74	21.90	20.20	13.70	16.82	14.56	62.12	66.03	4.11	1.30	12.11	11.09	11.78
		M	21.85	117.67	60.15	14.46	18.29	19.05	21.01		13.07	16.05		60.15	64.26		1.15	10.04	9.14	9.10
		25	20.34	114.61	58.18	14.08	17.87	18.36	20.12		12.44	15.28		58.18	62.49		1.00	7.97	7.19	6.42
8	182	75	26.96	127.48	67.80	14.78	18.74	20.17	22.67	20.66	14.31	17.36	15.05	63.97	68.55	4.51	1.47	16.96	15.25	15.28
		M	24.96	124.07	66.18	14.46	18.29	19.56	21.76		13.57	16.53		62.01	66.52		1.31	14.10	12.72	10.43
		25	22.96	120.66	64.56	14.14	17.84	18.95	20.85		12.83	15.70		60.05	64.49		1.15	11.24	10.19	5.58
9	167	75	28.09	132.40	70.01	14.99	18.96	20.80	23.22	21.20	14.76	17.63	15.32	65.51	70.12	5.20	1.66	19.53	17.54	12.60
		M	26.12	128.00	67.95	14.60	18.45	20.08	22.33		13.75	16.89		63.35	68.55		1.48	17.10	15.24	10.55
		25	24.15	123.60	67.89	14.21	17.94	19.36	21.44		12.74	16.15		61.19	66.98		1.30	14.67	12.94	8.50
10	207	75	30.66	134.65	71.99	15.02	18.96	21.15	23.51	21.60	14.46	17.69	15.46	66.28	72.21	5.83	1.79	21.13	19.71	17.08
		M	28.48	131.80	69.80	14.65	18.49	20.46	22.77		13.91	17.02		64.30	70.13		1.57	18.15	17.05	12.60
		25	26.50	127.95	67.61	14.28	18.02	19.77	22.03		13.36	16.35		62.32	68.05		1.36	15.17	14.39	8.12
11	201	75	33.69	140.62	73.99	15.02	19.17	21.92	24.24	22.10	15.08	18.53	15.89	67.64	74.59	6.72	2.02	24.79	23.04	18.09
		M	30.77	136.06	71.75	14.68	18.69	21.00	23.30		14.05	17.73		65.42	72.14		1.80	21.35	20.08	15.11
		25	27.85	131.50	69.51	14.34	18.21	20.08	22.36		13.02	16.93		63.20	69.69		1.58	17.91	17.12	12.13
12	173	75	37.05	146.00	76.45	15.07	19.03	22.37	25.19	22.85	15.15	18.67	16.05	70.26	77.01	6.50	2.24	26.88	25.08	22.53
		M	34.20	142.10	74.20	14.75	18.62	21.60	24.10		14.25	17.86		67.80	74.30		1.97	24.16	22.03	18.40
		25	31.35	138.20	71.95	14.43	18.21	20.83	23.01		13.35	17.05		65.34	71.59		1.71	21.44	18.98	14.27
13	138	75	42.84	152.58	78.19	15.27	19.05	23.92	25.93	23.91	16.15	19.20	16.87	72.24	80.38	7.94	2.40	29.70	26.35	23.93
		M	38.25	146.77	76.00	14.86	18.59	22.75	25.08		15.23	18.51		69.20	77.14		2.13	26.20	23.20	19.91
		25	33.66	140.96	73.81	14.45	18.13	21.58	24.23		14.31	17.82		66.16	73.90		1.85	22.70	20.05	15.89
14	141	75	48.98	159.22	81.63	15.34	19.29	24.44	26.80	24.48	16.76	20.24	17.32	75.19	83.39	8.28	2.64	34.15	32.38	25.19
		M	43.31	153.14	78.73	14.93	18.77	23.37	25.59		15.55	19.09		72.02	80.30		2.40	30.21	28.55	21.65
		25	37.64	147.06	75.83	14.52	18.25	22.30	24.38		14.34	17.94		68.85	77.21		2.11	26.27	24.72	18.11
15	107	75	55.91	166.15	87.08	15.49	19.45	26.13	28.72	25.87	17.21	20.23	17.69	79.27	88.18	7.60	3.13	44.03	39.87	30.37
		M	47.83	158.70	82.35	15.02	18.82	24.67	27.08		16.06	19.32		74.65	82.25		2.62	36.31	33.87	25.68
		25	39.75	151.25	77.62	14.55	18.19	23.21	25.44		14.91	18.41		70.03	76.32		2.14	28.59	27.87	20.99
16	79	75	62.33	173.32	90.00	15.66	19.62	27.40	29.44	27.27	18.04	21.66	18.50	82.42	91.90	9.00	3.57	48.79	44.91	35.92
		M	55.00	167.25	86.40	15.30	19.02	26.20	28.35		16.60	20.40		78.50	87.50		3.12	42.25	38.50	30.50
		25	47.67	161.18	82.80	14.94	18.42	25.00	27.26		15.16	19.14		74.58	83.10		2.67	35.71	32.09	25.08
17	37	75	64.95	173.08	90.89	15.55	19.56	27.16	29.82	27.71	17.87	22.39	18.81	83.25	94.61	9.92	3.88	50.32	49.68	35.80
		M	60.70	170.37	89.23	15.21	19.05	26.65	28.77		16.65	20.97		80.10	91.02		3.58	45.51	45.21	32.00
		25	56.45	167.66	87.57	14.87	18.54	26.14	27.72		15.43	19.55		76.95	87.43		3.28	40.70	40.74	28.20
18	20	75	68.06	172.87	92.88	15.88	19.88	28.17	29.95	27.71	17.93	22.26	19.21	83.86	92.56	8.00	3.95	58.98	49.89	42.16
		M	61.75	168.75	90.63	15.45	19.42	26.95	28.48		17.07	21.35		80.10	88.10		3.48	50.50	45.50	35.66
		25	55.44	164.63	88.38	15.02	18.96	25.73	27.01		16.21	20.44		76.34	83.64		3.01	42.02	41.11	29.16
19	13	75	68.50	178.62	91.90	15.48	19.68	27.90	30.50	28.05	18.80	23.13	19.77	85.50	96.16	11.00	3.91	55.50	68.00	41.68
		M	63.00	174.00	90.20	15.23	19.30	27.10	29.00		17.90	21.65		83.00	94.00		3.70	46.00	43.00	37.50
		25	57.50	169.38	88.50	14.98	18.92	26.30	27.50		17.00	20.17		80.50	91.84		3.49	36.50	18.00	33.32

1. This table is in the Metric System: Centimetres, kilogrammes, litres.

2. To transpose centimetres to inches, multiply by .393; kilogrammes to pounds, multiply by 2.2; litres to cubic inches, multiply by 61.

3. M stands for the mean value, which is the 50% line and is taken for the type of the age.

DEVELOPMENT OF BATTLE C

From SIX TO NINETEEN YEARS OF

Compiled by Wm. W. Hastings, Ph. D., Dean of Normal School of Physical Education

[illegible]

This table is in the metric system; centimetres, kilograms etc. To transpose centimetres to inches, multiply by 2.54; kilograms to pounds multiply by 2.2. **M** stands for the mean value, which is the 50% line and is taken for the type of the age.

<i>Boys</i>	<i>Per Cent</i>	<i>Age</i>	<i>Girls</i>	<i>Per Cent</i>	<i>Age</i>
1. James Redner	97.5	15	1. Helen Armstrong	93	14
2. Harold Hoyt	94		2. Elaine Collins	91	
3. Robert Dowsett	89.5		3. Irma Keagle		
*Wm. Hastings			*Theda Jones	90.5	
1. Robert Lord	93	16	1. Elsa Kapp	94	15
2. Boyd Redner	88		2. Martha Rose	91	
3. Paul Clark	87.5		3. Lucile Parrish	85.5	
1. *William Hawley	84.5	17	1. Norma Peters	88.5	16
2. Franz Toeller	84		2. Laurell Clevenger	88	
3. Harold King	79.5		3. Tacy Coon	83	
1. *Smith J. DeFrance	91	18	1. Rachel Neale	92	17
2. *Trevor Adams	85		2. Irma Moore	86	
3. Willard Baugh	74.5		3. Venice Barker	84	
1. Burton Clark	89	19	1. Alice Bekins	87	18
2. *Frederick Woodard	83.5		2. Hilda DeBarr	84	
3. Cyril Canright	92	20	3. Florence Collier	79.5	

MENTAL TEST

<i>Boys</i>	<i>Per Cent</i>	<i>Age</i>	<i>Girls</i>	<i>Per Cent</i>	<i>Age</i>
1. Lum Kee		5	1. Bernadine Stine		5
2. Glen Case			2. *		
3. *			3. *		
1. Wm. Gage		6	1. Marguerite Beck		6
2. Boyce Roberts			2. Gertrude Fisher		
3. DeWitt Price			3. (Helen Mitchell		
			(Dorothy Meade		
1. Laverne Spooner	64.66	7	1. Oneita Ziegler	54.8	7
2. Gerald Sharpsteen	54.83		2. Frances Shoup	P	
3. Edward Lawrence	P		3. Janey Crilly	P	
1. Chauncey Kyser	57.83	8	1. Myrtle Craze	61.06	8
2. Donald Potter	P		2. Frances Holmes	60.83	
3. John Clarke Riggs	50.65		3. Vera Crowell	53.16	
1. Chris G. Klemos	81.75	9	1. Martha Case	59.5	9
2. Arthur Vanguilder	46.5		2. Mildred Morso	55.9	
3. John Bush	41.3		3. Lucile Bheltzingslowen	55.35	
1. Daniel Holton	52.5	10	1. Carol Spencer	58.46	10
2. Cecil Charles	50.78		2. Hazel Spaulding	53.05	
3. *			3. Sarah Norris	49.89	
1. Glen Wood	65.33	11	1. Gladys Berch	52.87	11
2. Edwin Ricketson	54.72		2. Margaret Clayman	52.45	
3. Chas. Winzer	49.9		3. Mazie Butler	51.05	
1. Lyle Bucklin	55.3	12	1. Lucy Clark	58.75	12
2. Laverne Coats	54.25		2. Thelma Perry	53.95	
3. Louis Burgess	53.83		3. Opal Miller	52.55	
1. Donald Lauer	63.8	13	1. Ruth Holder	64.13	13
2. Gerald Dough	51.5		2. Iva Wright	48.58	
3. Arthur Carleen	50.25				
1. John Baker	64.05	14	1. Irma Keagle	76.96	14
2. Alan Hastings	62.65		2. Theda Jones	59.43	
3. Niles Vedder	53.6		3. Helen Armstrong	59.16	
1. Wm. Hastings	59.63	15	1. Martha Rose	66.26	15
2. James Walker	54.12		2. Lucile Parrish	61	
3. *			3. Lois Messenger	60.45	
1. Paul Clark	58.45	16	1. Tacy Coone	71.5	16
2. *			2. Vavah Tobey	57.2	
			3. *		
1. Wm. Hawley	67.86	17	1. Rachel Neale	70.72	17
2. *			2. *		
3. *			3. *		
1. Willard Baugh	72.6	18	1. Alice Bekins	69	18
2. S. G. DeFrance	67.31		2. *		
3. *			3. *		
1. Frederick Woodard	63.6	19	1. *		19
2. *			2. *		
3. *			3. *		
1. Cyril Canright		20	1. *		20
2. *			2. *		
3. *			3. *		

SCHOOL RECORD

<i>Boys</i>	<i>Per Cent</i>	<i>Age</i>	<i>Girls</i>	<i>Per Cent</i>	<i>Age</i>
1. Lum Kee85		5	1. Bernadine Stine80		5
2. Glen Case70			2. *		
3. *			3. *		
1. Wm. Gage98		6	1. Margaret Beck98		6
2. Boyce Roberts95			2. Gertrude Fisher95		
3. (Dewitt Price85			3. (Helen Mitchel90		
(Leland Richard Keagle85			(Dorothy Meade90		
1. Edward Lawrence98		7	1. (Frances Shoup93		7
2. George Judd93			(Janey Crilley93		
3. Laverne Spooner85			2. Juanita Ziegler92		
			3. Harriet Rothenberg87		
1. Donald Potter97		8	1. (Irene Norwood95		8
2. (Elgin Johnson95			(Myrtle Craze95		
3. (John Clark Riggs95			2. Winifred Kirshman93		
Leslie Acker92			3. Katherine Armstrong92		
1. Chris G. Klemos92		9	1. Mary Bryant97		9
2. Edwin Vary90			2. Lucile Bueltingslowen96		
3. (Frederick Clyde Kent85			3. Pauline Wagner95		
(John Storm85					
1. Paul Lawrence96		10	1. (Emma Ostrander95		10
2. Leroy Hart95			(Thelma Boyd95		
3. Maxwell Knight85			(Hazel Spaulding95		
			2. Marian Bruce92		
			3. Carol Spencer90		
1. Chas. Winger95		11	1. Marguerite Clayam97		11
2. (Edwin Ricketson94			2. (Georgia Bibbings87		
(Donald Williamson94			(Thelma McCabe87		
3. Donald Sherman86			3. (Alvida Farrah86		
			(Gladys Berger86		
1. Gordon Schlubatis98		12	1. (Marian Sauter95		12
2. Robert Wilkins95			(Laura Price95		
3. Dean Wells93			2. Emily Marsh94		
			3. LaMoine French90		
1. (Donald Lauer90		13	1. (Ruth Holder90		13
(Woodridge Johnson90			(Eva Wright90		
2. Lyle Sharpsteen88			2. Mildred Stine89		
Harry King88			3. Mary Seage85		
John Laudig88					
Arthur Carleen88					
Floyd Gross88					
1. Alan Hastings92		14	1. Theda Jones96		14
2. Robert McConnell89			2. Julia Rumohr95		
3. Merrill Read88			3. Ada Whitmore94		
1. Wm. Hastings96		15	1. Lucile Parrish98		15
2. James Walker85			2. Elsa Kapp94		
3. Arthur Redner84			3. Martha Rose92		
1. Herbert Davy98		16	1. Dorothy Williamson91		16
2. (Boyd Redner91			2. Ruth Hickman90		
(Paul Clarke91			3. Naomi Peters88		
3. Robert Lord83					
1. Wm. Hawley96		17	1. Rachel Neale98		17
2. (Harold King90			2. Irma Moore92		
(Edward Ferguson90			3. (Vavah Tobey90		
3. Franz Toeller87			(Venice Barker90		
1. Harold H. Bauer89		18	1. Florence Collier97		18
2. (Trevor Adams88			2. Hilda DeBarr95		
(Willard Baugh88			3. Alice Bekins91		
3. L. B. Williams72					
1. Frederick Woodard100		19	1. *		19
2. Burton Clarke85			2. *		
3. *			3. *		
1. Claude French88		20	1. *		20
2. Cyril Canright80			2. *		
3. *			3. *		

DEVELOPMENT OF BATTLE CREEK GIRLS

From SIX TO EIGHTEEN YEARS OF AGE

Compiled by Wm. W. Hastings, Ph. D., Dean of the Normal School of Physical Education, Battle Creek, Mich.

Age	Observations	Per Cent	Weight	Height	Height Sitting	Breadth of Head	Length of Head	Breadth of Chest Contracted	Breadth of Chest Expanded	Av. Breadth of Chest Con. and Exp.	Depth of Chest Contracted	Depth of Chest Expanded	Av. Depth of Chest Con. and Exp.	Girth of Chest Contracted	Girth of Chest Expanded	Average Chest Expansion	Lung Capacity	Forearm Right	Forearm Left
6	123	75	21.52	116.25	63.60	14.45	18.19	19.09	21.11	19.40	12.92	15.30	13.78	60.52	65.10	4.39	.96	7.49	7.53
		M	19.86	112.70	61.85	14.07	17.75	18.49	20.32		12.77	14.79		58.51	62.90		.83	5.50	5.11
		25	18.15	109.15	60.10	13.69	17.31	17.89	19.53		12.62	14.28		56.50	60.70		.70	3.51	2.69
7	158	75	22.95	121.06	65.37	14.56	18.13	19.55	21.60	19.89	13.39	15.84	14.09	61.56	70.18	4.55	1.13	10.70	10.58
		M	21.75	117.10	63.50	14.19	17.65	18.88	20.90		12.98	15.21		59.90	66.45		.98	9.16	9.00
		25	20.53	113.14	61.63	13.82	17.17	18.21	20.20		12.57	14.58		58.24	62.62		.54	7.62	7.43
8	192	75	24.68	125.66	67.19	14.64	18.22	20.08	22.28	20.39	13.58	16.11	14.25	63.27	67.95	4.84	1.26	13.83	11.38
		M	23.12	122.18	65.41	14.30	17.78	19.32	21.46		13.06	15.45		61.11	65.95		1.12	11.70	9.81
		25	21.56	118.70	63.63	13.96	17.34	18.56	20.64		12.54	14.79		58.95	63.95		.98	9.57	8.24
9	194	75	28.12	132.18	69.87	14.65	18.47	20.74	23.21	21.18	13.91	16.48	14.58	64.89	69.94	5.06	1.43	15.83	14.44
		M	25.90	128.62	67.92	14.33	18.03	20.02	22.35		13.29	15.88		62.87	67.93		1.28	13.79	12.34
		25	23.68	125.06	65.97	14.01	17.59	19.30	21.49		12.67	15.28		60.85	65.92		1.12	11.75	10.24
10	188	75	30.86	135.38	71.55	14.80	18.49	21.01	23.57	21.47	14.35	17.39	15.13	66.45	71.60	5.42	1.50	16.58	16.09
		M	28.13	132.15	69.48	14.44	18.06	20.22	22.73		13.74	16.52		64.00	69.42		1.35	14.45	13.67
		25	25.40	128.92	67.41	14.08	17.63	19.43	21.89		13.13	15.65		61.55	67.24		1.20	12.32	11.25
11	231	75	35.31	142.86	75.62	14.92	18.55	21.94	24.71	22.36	14.97	17.78	15.46	69.35	75.86	6.67	1.73	21.35	18.85
		M	31.98	137.70	72.90	14.53	18.08	21.07	23.66		14.04	16.89		66.41	73.08		1.65	18.07	16.14
		25	28.65	132.54	70.18	14.14	17.61	20.20	22.61		13.11	16.00		63.47	70.30		1.37	14.79	13.43
12	194	75	40.47	149.67	78.55	15.13	18.82	22.68	25.56	22.94	16.01	18.42	16.25	72.77	78.54	5.90	1.96	25.46	22.72
		M	35.72	144.33	75.80	14.68	18.31	21.55	24.34		15.00	17.50		69.19	75.09		1.73	22.02	20.00
		25	30.97	138.99	73.05	14.23	17.80	20.42	23.13		13.99	16.58		65.61	71.64		1.50	18.58	17.28
13	180	75	46.85	156.80	82.26	15.46	18.99	23.81	26.67	24.17	16.50	19.24	16.95	76.42	83.00	5.70	2.14	26.14	25.81
		M	41.75	151.30	79.14	15.00	18.52	22.67	25.67		15.54	18.37		73.43	79.13		1.89	22.74	22.40
		25	36.65	145.80	76.02	14.54	18.05	21.53	24.67		14.58	17.50		70.44	75.26		1.64	19.34	18.99
14	160	75	48.75	158.35	83.45	15.47	19.03	24.12	27.42	24.69	16.94	20.22	17.57	78.00	85.03	6.42	2.38	27.67	25.69
		M	44.10	154.40	81.20	15.00	18.59	23.09	26.30		16.04	19.10		74.70	81.12		2.09	24.94	22.77
		25	39.45	150.45	78.95	14.53	18.11	22.06	25.18		15.14	17.98		71.40	77.21		1.83	22.21	19.85
15	112	75	51.99	161.87	85.34	15.55	19.34	25.03	27.81	25.95	17.14	20.06	16.86	79.92	85.84	6.11	2.45	30.00	29.41
		M	47.50	156.70	82.95	15.07	18.81	24.03	26.88		16.35	19.11		76.44	82.55		2.20	27.44	26.30
		25	43.01	151.53	80.56	14.59	18.28	23.03	25.95		15.56	18.16		72.96	79.26		1.95	24.88	23.19
16	55	75	54.06	162.65	86.34	15.57	19.43	24.93	28.11	25.62	17.39	20.13	17.75	86.63	86.26	5.36	2.45	30.77	28.45
		M	49.83	159.07	84.30	15.13	18.95	24.07	27.17		16.38	19.12		78.14	83.50		2.14	27.38	25.10
		25	45.60	155.49	82.26	14.69	18.47	23.21	26.23		15.37	18.11		75.65	80.74		1.83	23.99	21.75
17	25	75	57.16	162.03	85.86	15.49	19.13	25.25	28.60	26.18	17.39	20.13	18.30	82.20	87.98	5.69	2.62	33.20	30.18
		M	52.25	159.16	83.70	15.08	18.55	24.52	27.85		16.45	19.15		79.56	85.25		2.38	30.87	27.72
		25	47.34	156.29	81.54	14.67	17.97	23.79	27.10		15.51	18.17		76.92	82.52		2.14	28.54	25.26
18	18	75	56.25	164.12	86.01	15.47	19.40	25.53	28.15	26.03	17.27	20.20	17.66	78.96	85.68	5.67	2.49	60.37	59.25
		M	51.50	160.25	84.70	15.25	18.85	24.55	27.52		16.25	19.07		77.08	82.75		2.22	50.50	50.50
		25	46.75	156.38	83.39	15.03	18.30	23.57	26.89		15.23	17.94		75.20	79.82		1.95	40.63	41.75

1. This table is in the Metric System: Centimetres, kilogrammes, litres.

2. To transpose centimetres to inches, multiply by .393; kilogrammes to pounds, multiply by 2.2; litres to cubic inches, multiply by 61.

3. M stands for the mean value, which is the 50% line and is taken for the type of the age.

DENTAL EXAMINATION

<i>Boys</i>	<i>Age</i>	<i>Girls</i>	<i>Age</i>
1. Clifford McGriffin	5	1. Bernadine Stine	5
2. Lum Kee		2. *	
3. Glen Case		3. *	
1. Wm. Gage	6	1. Tilda Parsons	6
2. Ernest Van Strain		2. Margaret Beck	
3. Clifford Lazonis		3. Helen Mitchell	
1. Earl McMahan	7	1. Ruth Adaline Garrard	7
2. Harry Ellis		2. Dorothy Fenn	
3. Robert Baker		3. Harriet Rothenberg	
1. Emerson Brigham	8	1. Winifred Kirshuman	8
2. Frederick Hunt		2. Clara Carter	
3. Donald Potter		3. Vera Crowell	
1. Paul Lawrence	9	1. Enid McAllister	9
2. Gilbert Adams		2. Frances Gorsline	
3. Chris Klemos		3. Alta Hanson	
1. Ernest Fall	10	1. Prudence Parson	10
2. Douglas Dunsmore		2. Bessie Brandt	
3. Donald W. Winans		3. Carol Spencer	
1. Lawrence Rogers	11	1. Ruby Hart	11
2. Newton Gould		2. Marian Zanger	
3. Glen Winger		3. Gladys Berger	
1. Robert Wilkins	12	1. Ruth Leach	12
2. Howard Pomeroy		2. Opal Miller	
3. Markham Fitzgerald		3. Hazel Johnson	
1. Gregory Robinson	13	1. Carlotta Squier	13
2. John Jacob		2. Mary Seage	
3. Nelson Wickham		3. Georgia Faith	
1. Albert Gould	14	1. Rita Love	14
2. Robt. Russel McIntosh		2. Gladys Coon	
3. Niles Vedder		3. Beatrice Guildford	
1. Ralph Tabor	15	1. Beatrice Lapham	15
2. Lawrence Young		2. Zelma Tyner	
3. Earl Burgett		3. Elsa Kapp	
1. Chas. Jones	16	1. Iva Fisher	16
2. Edw. Ferguson		2. Agnes Hefley	
3. Alliston Barker		3. Nellie Clapper	
1. Harold King	17	1. Rachel Neale	17
2. Wm. Hawley		2. Rachel Leo	
3. Herman Woodard		3. Irma Moore	
1. L. B. Williams	18	1. Alice Bekins	18
2. Trevor Adams		2. Hilda DeBarr	
3. Willard Baugh		3. Leona Ford	
1. Burton Clark	19	1. *	19
2. Frederick Woodard		2. *	
3. *		3. *	
1. Claude French	20	1. *	20
2. *		2. *	
3. *		3. *	

EYE, EAR, NOSE AND THROAT EXAMINATION

<i>Boys</i>	<i>Age</i>	<i>Girls</i>	<i>Age</i>
1. Glen Case	5	1. Bernadine Stine	5
2. Luma Kee		2. *	
3. *		3. *	
1. Wm. Gage	6	1. Margaret Beck	6
2. Leland Keagel		2. Gertrude Fisher	
3. Clifford Lazarus		3. Dorothy Meade	
1. Lang Davis	7	1. Juanita Zeigler	7
2. Gerald Sharpsteen		2. Gertrude Roberts	
3. Norman McDonald		3. Harriet Rothenberg	
1. Leslie Acker	8	1. Myrtle Craze	8
2. John Clark Riggs		2. Winifred Kirschman	
3. Donald Potter		3. Minnie Richmond	
1. Norman Haughey	9	1. Martha Case	9
2. Frederick Clyde Kent		2. Mildred Morse	
3. Edwin Vary		3. Myrtle Nutter	

<i>Boys</i>			<i>Age</i>	<i>Girls</i>			<i>Age</i>
1.	Cecil Charles	90 Ca	10	1.	Carol Spencer	90 Ca	10
2.	Leroy Hart	89 Ca		2.	Emma Ostrander	89 Ca	
3.	Milford Boyce	85 Ca		3.	Marian Bruce	88 Ca	
1.	Kenneth Brownell	98 Ca	11	1.	Ida Keene	95 H	11
2.	Lavern A. Potter	98 Ca		2.	Ruth Iverson	90 H	
3.	Donald Sherman	97 Ca		3.	Gladys Buger	88 H	
1.	Laverne Wright	95 H	12	1.	Thelma Perry	95 H	12
2.	Dean Wells	90 H		2.	Lucy Clark	90 H	
3.	Robert Wilkins	85 H		3.	Marian Fauter	85 H	
1.	Lyle Sharpsteen	95 H	13	1.	Ruth Holder	95 H	13
2.	John Laudig	93 H		2.	Shirley E. Hale	94 H	
3.	Arthur Carteen	85 H		3.	Thelma McCabe	85 H	
1.	Niles Vedder	100 C	14	1.	Helen Armstrong	91 C	14
2.	Alan Hastings	98 C		2.	Ruby Oxley	90 C	
3.	Lee Collier	95 C		3.	Julia Rumohr	89 C	
1.	James Walker	95 C	15	1.	Martha Rose	98 C	15
2.	Arthur Redner	90 C		2.	Mildred Stevens	90 C	
3.	Wm. Hastings	85 C		3.	Cecil Hager	88 C	
1.	Herbert Davy	100 C	16	1.	Dorothy Williams	98 C	16
2.	Boyd Redner	90 C		2.	Norma Peters	90 C	
3.	Paul Clark	85 C		3.	Ruth Hickman	90 C	
1.	Franz Toeller	100 C	17	1.	Irma Moore	95 C	17
2.	Wm. Hawley	95 C		2.	Rachel Neale	90 C	
3.	Edw. Ferguson	90 C		3.	Vavah Tobey	88 C	
1.	Harold Bauer	90 C	18	1.	Alice Bekins	95 C	18
2.	S. J. DeFrance	88 C		2.	Florence Collier	85 C	
3.	L. B. Williams	80 C		3.	Hilda DeBarr	75 C	
1.	Frederick Woodard	98 C	19	1.	*		19
2.	Burton Clark	95 C		2.	*		
3.	*			3.	*(No Contestants)		
1.	Claude French	70	20	1.	*		20
2.	*			2.	*		
3.	*			3.	*(No Contestants)		

By reference to the foregoing table on "Medal Winners," the places won by each medal winner are to be observed. As will be noted, some of the medal winners won no place in anything, were mediocre in everything, but won because they qualified in everything. Others, not medal winners, very nearly perfect by the physical tests and mental tests, lost the medal by irregular teeth or enlarged tonsils. Others lost by the omission of some physical or mental test.

Another year would witness a very much more satisfactory contest. Nearly all of the five thousand Battle Creek children would enter and be careful to miss nothing. A month's time for examination and three months for statistical work would give more accurate and satisfactory results.

It goes without saying that many children of excellent mentality have been eliminated by the physical test, some of those making the highest grades. There are not many of these children who are very precocious who have inferior bodies. Generally speaking, muscle and mind are good yoke-fellows and are found associated. Exceptions always look more prominent and seem more frequent because of the contradiction which one finds in their occurrence.

It is to be observed that some children well-grown and well-developed were not symmetrical. Some were below normal height or below normal in chest depth, strength, sitting height, chest expansion or some



Group of prize-winning children in Mental and Physical Perfection Contests.

other particular. They were very much superior in certain qualities but not all-round in development, and were therefore excluded from the contest. It must be remembered also that in selecting from the grades in the Departmental and High Schools, the youngest boys and girls have the advantage from the fact that there are few of the same age to compete with them, but in the final tests of health and physical perfection by dentists and physicians, they compete with the most perfect children from all grades and justice is finally done in the matter of selection.

Important lessons have accrued to teachers, parents and children thru these tests; lessons of the reality of race degeneracy, of the possibilities of race betterment, lessons of toothbrushes and clean mouths, regular baths, plain, simple foods, plenty of sleep and outdoor exercise; lessons that children will never forget.

We want to acknowledge our indebtedness in this contest to a few of the people who assisted us. We want especially to acknowledge our indebtedness to Superintendent Coburn and the Board of Education for the opportunity of taking these tests, and for every form of co-operation which they could lend us; also to the principals and teachers of the schools who have assisted us in every way possible. We want to acknowledge our indebtedness to the eye, ear, nose and throat specialists of the city, four of whom gave their time freely to the examination of the children—Dr. W. M. Carling, Dr. Chas. W. Ryan, Dr. Wilfred Haughey and Dr. B. N. Colver, and to the members of the Battle Creek Dental Association: Dr. B. R. Parrish, Dr. C. F. Larned, Dr. S. M. Fowler, Dr. B. F. Johanson, Dr. J. H. Rockwell, Dr. D. C. Nichols, Doctor Trestain, for without the hearty cooperation of all these people, the contests would have been absolutely impossible.

We also acknowledge our indebtedness to the Normal School students who have stayed with it loyally from the start to the finish, who began this work the second week in December and have spent about one month on it.

The mental tests recently taken in Battle Creek occupied the time of over thirty instructors and students in the Normal School of Physical Education for five days. Three or four rooms were taken at a time in the grade schools so that the whole school was completed during a morning or an afternoon.

Heavy as has been the labor of taking the physical and mental tests, and important as it was to employ the very best available assistance for the purpose, the task of scrutinizing carefully and compiling results from these tests has been infinitely more laborious than all that has gone before. In this work, the head clerks, Mr. A. L. Babcock

and Mr. Chas. Bradshaw, Seniors in the Normal School of Physical Education, have received invaluable assistance from the students of the school.

Report of Physical Development of Children in the Public Schools of Battle Creek

The following conclusions were secured by the use of data secured thru the Physical and Mental Perfection Contests.

The method of measurement was that employed for the children in Nebraska schools. Shoes, coats and sweaters were removed during the measurements. Five of the measurements are not affected at all by retention of clothing; six are affected on an average of from one to two millimetres or not more than the average error of observation; girth is affected on an average of three or four millimetres; weight increased on an average of eight per cent. (See Bowditch's conclusions as to Boston children in "Growth of Children," "Papers on Anthropometry.")

The measurements were taken under the direction of Wm. W. Hastings, Ph.D., Dean of the Normal School of Physical Education, Battle Creek, by a corps of the faculty and students from this institution; eight observers and eight recorders for each room, an observer and a recorder for each piece of apparatus being used.

THE TOTALS OF CHILDREN MEASURED AT DIFFERENT AGES ARE AS FOLLOWS:

<i>Age</i>	<i>Boys</i>	<i>Girls</i>	<i>Age</i>	<i>Boys</i>	<i>Girls</i>
6	122	123	15	107	112
7	133	134	16	79	55
8	182	192	17	37	25
9	167	194	18	20	18
10	207	188	19	13	3
11	201	231	20	4	4
12	173	194			
13	138	180			
14	141	160			
			Boys	1,724	Girls 1,813
			Total Number of Children, 3,537		

The development of Battle Creek children compares very favorably with that of children from Boston, St. Louis, Toronto and Nebraska. They are in the main superior in all qualities except chest expansion. A comparison of Battle Creek standards with those of Nebraska in the following table indicates a marked superiority over Nebraska children in everything but chest expansion. (Ages six and seven girls, and age six boys, are an exception to this statement.) No importance should be attached to differences observable in ages 16 to 20 for the reason that the data is not sufficient to warrant the accuracy of the Battle Creek types for these ages.

The table on the following page presents the type (50% grade) of each measurement for each age and sex from six to eighteen years for girls, and six to nineteen years for boys, together with corresponding types from Nebraska calculated in the same way for the respective ages.

ANTHROPOMETRIC TABLE
for BOYS FIVE TO SIXTEEN (5-19) YEARS OF AGE
PHYSICAL TYPE FOR EACH AGE, AND VITALITY COEFFICIENTS
(Compiled from the measurements of five thousand four hundred and seventy-six school children)

Age	Number of Observations	Per Cent.	Weight (Kilos—Pounds)	LENGTHS (CENT.—inches)			BREADTHS (CENT.—inches)			DEPTH (CENT.—inches)	GIRTHS (CENT.—inches)		STRENGTHS			COEFFICIENTS	
				Height	Height Sitting	Span of Arms	Head	Chest	Waist		Chest	Girth of Head	Chest Expansion	Lung Capacity (Litres—Cub. Inches)	Strength of Forearm, R. (Kilos—Pounds)	Strength of Forearm, L. (Kilos—Pounds)	R H C—Respiratory-Height Coefficient V C—Vitality Coefficient O S H C—Organic Strength-Height Coefficient
19		M	61 71	171 81	90 39		15 75	27 35		19 03		8 40	4 10	47 55	43 64		
18		M	59 25	171 07	89 42		15 44	25 80		18 70		7 63	3 80	46 19	43 08		
17		M	56 82	169 98	87 36		15 21	25 54		18 42		7 28	3 63	43 22	41 05		
16	218	75	58 20 128 03	163 20 66 60	88 50 34 85	174 82 68 85	15 57 6 10	26 39 10 40	24 70 9 75	18 15 7 15	55 68 21 95	10 47 4 10	3 64 222 03	40 96 90 10	36 62 80 36	169	R H C
		M	52 90 116 38	163 73 64 45	85 21 33 55	168 21 66 25	15 14 5 95	25 04 9 35	23 19 9 15	16 80 6 60	54 73 21 55	8 80 3 45	3 14 191 40	33 31 73 28	29 04 65 22	33 58	V C
		25	47 60 104 73	158 26 62 30	81 92 32 25	161 60 63 65	14 71 5 80	23 69 9 30	21 68 8 55	15 45 6 05	53 78 21 15	7 13 2 80	2 64 160 77	25 66 56 46	22 76 50 05	210 84	O S H C
15	324	75	53 97 118 73	164 90 64 90	85 56 33 70	167 55 66 00	16 35 6 05	24 95 9 80	23 41 9 20	17 48 6 85	55 63 21 90	10 25 4 00	3 07 186 95	35 09 77 21	29 23 64 34	141	R H C
		M	46 95 103 29	158 18 62 25	81 68 32 15	160 33 63 15	15 00 5 00	23 68 9 30	22 00 8 65	16 07 6 30	54 55 21 45	8 44 3 30	2 04 161 00	28 85 65 47	24 68 54 30	26 09	V C
		25	39 93 87 85	151 37 59 60	77 80 31 60	153 11 60 30	14 65 5 75	22 41 8 80	20 59 8 10	14 66 5 75	53 47 21 00	6 63 2 60	2 21 135 05	22 61 49 71	20 11 44 26	185 22	O S H C
14	435	75	44 46 97 31	156 75 51 70	80 78 31 75	159 33 62 70	15 25 6 00	23 87 9 40	22 38 8 65	16 33 6 45	55 18 21 70	9 98 3 95	2 67 161 60	29 19 64 21	27 19 59 81	129	R H C
		M	39 73 87 31	151 02 59 45	78 06 30 70	152 43 60 00	14 80 5 55	22 78 8 95	21 00 8 25	15 07 5 05	54 19 21 30	8 46 3 35	2 30 110 12	25 37 55 61	23 05 50 70	21 97	V C
		25	35 00 77 01	145 29 57 20	75 34 29 65	145 53 57 30	14 63 5 70	21 69 8 50	19 62 7 75	13 81 5 45	53 20 20 90	6 64 2 75	1 95 118 64	21 55 47 41	18 91 41 59	170 51	O S H C
13	515	75	39 15 85 90	149 90 59 00	77 56 30 50	151 08 59 50	15 11 5 05	23 07 9 10	20 95 8 25	15 35 6 00	54 46 21 45	9 83 3 85	2 29 139 35	26 28 57 81	23 22 51 03	116	R H C
		M	35 00 78 32	145 09 57 10	75 21 29 00	140 02 57 50	14 78 5 80	22 11 8 70	20 18 7 95	14 38 5 65	53 58 21 10	8 29 3 25	2 03 123 58	22 59 49 09	20 49 45 07	13 28	V C
		25	32 15 70 74	140 28 55 20	72 86 28 70	140 96 55 50	14 45 5 65	21 15 8 30	19 41 7 65	13 41 5 30	52 70 20 75	6 75 2 65	1 77 107 81	18 90 41 57	17 76 39 06	157 62	O S H C
12	559	75	35 82 78 79	144 97 57 10	75 70 29 80	145 66 57 35	15 04 5 95	22 44 8 85	20 62 8 10	15 20 6 00	54 12 21 30	9 22 3 60	2 05 124 07	22 37 49 21	21 34 46 93	102	R H C
		M	32 98 72 55	140 29 55 25	73 59 28 95	140 42 55 30	14 60 5 80	21 57 8 50	19 50 7 70	14 17 5 60	53 34 21 00	7 80 3 05	1 83 111 35	19 68 43 29	18 44 40 56	15 55	V C
		25	30 14 66 31	135 61 53 30	71 48 28 10	135 18 53 25	14 34 5 65	20 70 8 15	18 50 7 30	13 11 5 20	52 56 20 70	6 38 2 50	1 61 97 99	16 09 37 37	15 74 34 19	152 86	O S H C
11	660	75	32 23 70 63	138 83 51 65	73 50 28 90	140 24 53 20	14 95 5 90	21 70 8 50	19 90 7 80	14 80 5 85	53 96 21 25	8 70 3 40	1 87 112 72	20 40 43 86	18 41 41 69	991	R H C
		M	29 86 64 89	134 90 53 10	71 64 28 20	135 04 53 40	14 58 5 75	20 93 8 25	18 92 7 45	13 89 5 45	52 92 20 65	7 36 2 90	1 66 100 74	18 02 39 09	16 11 36 30	13 33	V C
		25	27 49 59 75	130 97 51 55	69 78 27 50	131 04 51 60	14 21 5 60	20 26 8 00	17 94 7 10	12 98 5 15	51 88 20 45	6 02 2 40	1 45 88 76	15 64 34 32	13 81 30 91	147 16	O S H C
10	498	75	29 96 65 93	135 11 53 20	72 26 28 45	134 61 53 00	14 90 5 90	21 01 8 30	19 24 7 55	14 04 5 55	53 29 21 00	8 24 3 25	1 71 105 93	17 24 37 93	16 39 36 06	979	R H C
		M	27 85 61 28	130 95 51 55	70 04 27 60	130 06 51 20	14 53 5 75	20 26 8 00	18 29 7 20	13 29 5 25	52 35 20 60	7 00 2 75	1 48 90 02	14 74 32 42	14 00 30 94	10 84	V C
		25	25 74 56 63	126 79 49 80	67 82 26 75	125 51 49 40	14 16 5 60	19 51 7 70	17 34 6 85	12 54 4 95	51 41 20 20	5 76 2 25	1 25 76 11	12 24 26 91	11 73 25 82	137 01	O S H C
9	546	75	27 03 59 45	129 64 51 05	70 01 28 00	128 85 50 75	14 88 5 85	20 72 8 10	19 06 7 50	13 96 5 50	53 46 21 00	7 69 3 00	1 52 92 34	15 34 33 76	13 71 30 18	969	R H C
		M	25 07 55 15	125 80 49 55	68 00 26 80	124 70 49 10	14 51 5 70	19 78 7 80	18 04 7 10	13 21 5 20	52 49 20 65	6 55 2 55	1 33 81 05	13 14 28 91	11 77 25 90	9 34	V C
		25	23 11 50 85	122 08 48 05	65 09 26 00	120 55 47 45	14 14 5 55	19 04 7 50	17 02 6 70	12 46 4 90	51 52 20 30	5 41 2 10	1 14 60 72	10 94 24 06	9 83 21 62	135 97	O S H C
8	565	75	25 00 54 98	124 85 49 15	68 02 26 80	123 49 48 05	14 76 5 75	20 11 7 80	18 59 7 30	13 55 5 55	53 26 20 95	7 04 2 80	1 35 82 33	12 60 27 71	11 07 24 34	956	R H C
		M	23 14 50 90	121 31 47 75	66 00 26 00	119 34 47 00	14 44 5 65	19 44 7 65	17 60 6 95	12 89 5 10	52 20 20 55	5 95 2 35	1 15 70 43	10 63 23 38	9 53 20 96	7 34	V C
		25	21 28 46 82	117 77 46 35	63 98 25 20	115 19 45 35	14 12 5 55	18 77 7 40	16 73 6 60	12 23 4 85	51 14 20 15	4 86 1 90	95 38 53	8 66 19 05	7 99 17 58	130 09	O S H C
7	544	75	22 30 49 04	119 19 46 90	66 06 26 10	118 29 46 60	14 68 5 80	19 64 7 75	18 03 7 10	13 50 5 35	52 86 20 80	5 57 2 20	1 17 71 57	10 77 23 68	10 44 23 00	939	R H C
		M	21 30 46 85	115 69 45 55	64 08 25 20	114 28 45 00	14 33 5 65	18 92 7 45	17 14 6 75	12 91 5 10	51 94 20 45	4 58 1 80	99 60 48	9 18 20 19	8 53 18 78	5 05	V C
		25	20 30 44 66	112 19 44 20	62 10 24 40	110 27 43 40	13 98 5 50	18 20 7 15	16 25 6 40	12 32 4 85	51 02 20 10	3 69 1 40	81 49 39	7 69 16 70	6 62 14 56	128 93	O S H C
6	410	75	20 68 45 50	114 31 45 00	62 37 25 00	112 01 44 10	14 57 5 75	19 09 7 30	17 61 6 00	13 38 5 25	52 49 20 65	5 16 2 00	1 00 61 01	8 88 19 34	7 50 16 40	932	R H C
		M	19 37 42 62	110 67 43 55	61 35 24 20	108 18 42 60	14 24 5 60	18 43 7 25	16 69 6 55	12 83 5 05	51 56 20 25	4 29 1 65	83 50 89	6 98 15 36	5 70 12 53	4 02	V C
		25	18 06 39 72	107 00 42 10	59 35 23 40	104 35 41 10	13 91 5 45	17 77 6 20	15 77 6 15	12 28 4 85	50 63 19 95	3 42 1 30	60 30 84	5 08 11 18	3 90 8 60	124 89	O S H C
5	202	75	19 01 41 81	108 87 42 80	61 15 24 10	105 32 41 50	14 57 5 75	18 71 7 40	17 39 6 55	12 92 5 10	52 03 20 50	4 07 1 55	83 50 36	5 56 12 23	5 14 11 31	922	R H C
		M	17 80 39 29	105 78 41 60	59 32 23 30	102 44 40 35	14 21 5 00	18 10 7 15	16 53 6 50	12 39 4 90	51 20 20 15	3 42 1 35	67 40 60	4 89 10 76	4 72 10 38	2 92	V C
	Total 5476	25	16 71 36 77	102 09 40 40	57 49 22 60	99 56 39 20	13 85 5 45	17 49 6 00	15 67 6 15	11 86 4 70	50 37 19 80	2 77 1 05	51 30 84	4 22 9 29	4 40 9 45	120 31	O S H C

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Measurements of _____ taken _____ by _____

ANTHROPOMETRIC PHYSICAL TYPE FOR EACH AGE, WITH
for BOYS FIVE TO SIXTEEN (3)
Re (Compiled from the measurements of five thousand four

Age	Percentile of Observations	Body Cent.	Weight (Kilograms) (Pounds)	Lengths (Centimeters) (Inches)			Breastings (Centimeters) (Inches)			Chest (Centimeters) (Inches)	Neck	Throat
				Height	Upper Arm	Forearm	Height	Upper Arm	Forearm			
10	98	M	41.71	121.81	90.39	12.75	82.32	12.75	82.32	12.75	10	10
18	98	M	29.82	171.07	88.48	12.44	82.80	12.44	82.80	12.44	18	18
17	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	17	17
16	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	16	16
15	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	15	15
14	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	14	14
13	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	13	13
12	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	12	12
11	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	11	11
10	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	10	10
9	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	9	9
8	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	8	8
7	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	7	7
6	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	6	6
5	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	5	5
4	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	4	4
3	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	3	3
2	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	2	2
1	98	M	29.82	168.98	87.39	12.31	82.84	12.31	82.84	12.31	1	1

These measurements are taken to indicate extreme anthropometric types.

If called upon to account for the deficiency of Battle Creek children in chest expansion, we would first call attention to the fact that Battle Creek children are invariably larger in breadth of chest and depth of chest and prevailingly larger in height sitting. Battle Creek children are also larger in lung capacity in spite of the fact that they are deficient in chest expansion. This indicates a great lack of flexibility of the thorax.

This difference may be attributed to lack of muscular exercise and to climatic conditions. It is already known thru investigations by life insurance companies and thru Hastings' data on phenomenal development in flexibility of thorax by boys (see pp. 4 and 5 of Manual for Physical Measurements, Hastings) that the climate of Nebraska tends to develop a more rapid heart rate and deeper and more rapid respirations. The dry, electric condition of the Nebraska atmosphere is to be contrasted with the humidity of the Lower Peninsula, lying between the lakes.

The recent introduction of systematic physical education into Battle Creek schools will doubtless tend to correct this lack of flexibility.

BATTLE CREEK SCHOOL CHILDREN—DEFICIENT IN HEIGHT OR RESPIRATORY MEASUREMENTS

Age	6		7		8		9		10	
Sex	B	G	B	G	B	G	B	G	B	G
Deviation	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D
*No. Def.										18
Height	6	6	13	6	15	12	10	20	10	18
†L. C.	4 5	4 2	11 2	10 2	11	18 3	7 10	14 5	13 7	7
Ch. Exp.	15	4 2	15	15	27 11	30 4	42 56	53 34	23 30	18 15
Bd. Ch.	6	2	2	1	6	1		2	2	2
Dp. Ch.	1			2			2 2			
Def. for Age	20	11	20	24	46	45	130	123	64	45
Normal	65	51	97	39	129	154	139	148	152	139

Age	11		12		13		14		15	
Sex	B	G	B	G	B	G	B	G	B	G
Deviation	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D
*No. Def.										
Height	6	11	7	16	7		10	20	7	7
†L. C.	11	11 4	11 23	12 2	4 9	1 4	8 4	5	1	2
Ch. Exp.	36 37	37 47	52 33	39 21	36 32	39 20	25 25	40 5	20 10	14 2
Bd. Ch.	1 1	1	2 1	4	2 1		1 2	2	1	5
Dp. Ch.	1		1	3	6	2	1		22 10	7
Def. for Age	75	93	140	97	97	79	73	66	48	32
Normal	136	135	113	118	94	104	91	80	62	69

Age	16		17		18		19		Total	
Sex	B	G	B	G	B	G	B	G	B	G
Deviation	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D	-D -2D
*No. Def.										
Height	1	7		3			2			
†L. C.	3 4	3	2 1	1	1	1 1	2			
Ch. Exp.	8 3	3	2	1		3	1			
Bd. Ch.	1	1	1	2	1					
Dp. Ch.			3 1			1	1			
Def. for Age	19	14	10	10	2	6	7		1401	
Normal	37	32	18	13	8	11	6		2240	

*Number Deficient, Classified according to individual measurements. No. Def., above.

†Abbreviations for Lung Capacity (L. C.), Chest Expansion (Ch. Exp.), Breadth of Chest (Bd. Ch.), Depth of Chest (Dp. Ch.), Total Deficients for age in one or more particulars (Def. for Age). "Normal," do not fall below 25% in any particular.

The foregoing table presents some of the notable deficiencies in measurements which show development in respiratory functions. -D indicates below the twenty-five per cent for the age, height and sex. -2D indicates a deviation two or more times that of the twenty-five per cent below the mean value. "Deficient for the age" indicates the number who are deficient (below the 25% grade) in any respiratory measurement. Especially significant are the large number deficient in chest expansion.

It is interesting to note the degree of conformity of Battle Creek children to "Bowditch's law" of comparative acceleration of growth in boys and girls. As in Nebraska, the girls begin to excel boys in height and weight at an earlier date than in Boston.

Age	Height			Age	Weight		
8	{ 124.07 Boys 122.18 Girls	+	1.89	10	{ 28.40 B 28.13 G	+	.27
9	{ 128.00 B 128.62 G	- +	.62	11	{ 30.77 B 31.98 G	- +	1.22
10	{ 131.80 B 132.15 G	- +	.35	12	{ 34.20 B 35.72 G	- +	1.52
11	{ 136.06 B 137.70 G	- +	1.64	13	{ 38.25 B 41.75 G	- +	3.50
12	{ 142.10 B 144.33 G	- +	2.23	15	{ 47.83 B 47.50 G	+	.33
13	{ 146.77 B 151.30 G	- +	4.53				
14	{ 153.14 B 155.40 G	- +	2.26				
15	{ 158.70 B 156.70 G	+	2.00				

Until the age of nine, boys are above girls in height and weight; at nine and ten are slightly under in height; at ten slightly under

ANTHROPOMETRIC TABLE

for GIRLS FIVE TO SIXTEEN (5-18) YEARS OF AGE

PHYSICAL TYPE FOR EACH AGE, AND VITALITY COEFFICIENTS

(Compiled from the measurements of five thousand five hundred and seventy school children)

Age	Number of Observations	Per Cent.	Weight (Kilos)	LENGTHS (CENT.)			BREADTHS (CENT.)			DEPTH (CENT.)	GIRTHS (CENT.)		STRENGTHS			COEFFICIENTS	
				Height	Height Sitting	Span of Arms	Head	Chest	Waist		Chest	Girth of Head	Chest Expansion	Lung Capacity (Litres)	Strength of Forearm, R (Kilos)	Strength of Forearm, L (Kilos)	R H C — Respiratory-Height Coefficient V C — Vitality Coefficient O S H C — Organic Strength-Height Coefficient
18		M	50 16	159 74	83 14		15 08	24 88		16 70		6 02	2 45	27 03	23 60		
17		M	50 44	159 40	83 09		15 08	24 60		16 69		6 17	2 47	25 30	23 72		
16	355	75	54 67 120 28	161 98 63 80	86 78 34 15	162 37 63 95	15 43 6 05	25 61 10 05	21 03 8 30	17 29 6 80	56 05 22 10	8 07 3 05	2 45 149 59	28 64 63 00	27 13 59 70	075	R H C
		M	50 38 110 83	157 93 62 20	84 70 33 35	158 30 62 35	15 05 5 90	24 33 9 60	19 95 7 85	16 02 6 30	55 00 21 05	5 56 2 20	2 14 130 39	24 13 53 08	22 95 50 50	14 33	V C
		25	46 09 101 38	153 88 60 60	82 62 32 55	154 23 60 75	14 67 5 75	23 28 9 15	18 87 7 40	14 75 5 80	53 95 21 20	3 67 1 35	1 83 111 19	19 62 43 16	18 77 41 30	190 22	O S H C
15	459	75	51 07 112 36	161 29 63 50	85 67 33 70	161 44 63 55	15 31 6 05	24 83 9 50	20 75 8 20	16 51 6 50	55 91 22 00	8 72 3 50	2 30 140 15	28 29 62 25	27 13 59 07	084	R H C
		M	46 71 102 77	156 79 61 75	83 30 32 80	156 97 61 80	14 96 5 90	23 80 9 40	19 70 7 80	15 33 6 05	54 65 21 50	6 55 2 60	2 02 123 08	24 44 53 76	22 04 50 46	14 97	V C
		25	42 35 93 18	152 29 60 00	80 93 31 90	152 50 60 05	14 61 5 75	22 77 9 00	18 77 7 40	14 15 5 60	53 89 21 00	4 38 1 70	1 74 106 01	20 59 45 27	18 75 41 25	177 39	O S H C
14	534	75	47 88 105 33	158 67 62 45	83 86 33 00	158 64 62 45	15 28 6 00	24 01 9 50	20 77 8 20	16 65 6 15	55 17 21 70	8 57 3 40	2 16 131 32	25 42 55 91	22 82 50 22	082	R H C
		M	42 92 94 42	153 17 60 30	86 79 31 80	153 06 60 25	14 93 5 85	22 91 9 05	19 70 7 75	14 51 5 70	54 14 21 30	6 80 2 70	1 85 112 69	21 73 47 80	19 51 42 93	13 39	V C
		25	37 96 83 51	147 67 58 15	77 72 30 60	147 48 58 05	14 58 5 70	21 81 8 60	18 63 7 30	13 37 5 25	53 11 20 90	5 03 2 00	1 54 94 66	18 04 39 69	16 20 35 64	163 05	O S H C
13	534	75	42 39 93 26	154 03 60 65	80 16 31 55	152 66 60 10	15 09 5 90	23 03 9 10	20 34 8 00	15 09 5 90	54 55 21 50	8 13 3 20	1 98 120 95	21 87 48 11	20 71 45 58	078	R H C
		M	37 94 83 46	148 53 58 50	77 44 30 50	147 11 57 90	14 76 5 80	22 03 8 70	19 32 7 60	14 11 5 55	53 56 21 05	6 67 2 60	1 73 105 70	18 52 40 74	17 66 38 86	11 79	V C
		25	33 49 73 66	143 03 56 55	74 72 29 45	141 56 55 70	14 43 5 70	21 03 8 30	18 30 7 20	13 13 5 20	52 45 20 60	5 21 2 00	1 48 90 45	15 17 33 37	14 61 32 14	151 75	O S H C
12	526	75	36 92 81 21	147 36 58 00	76 90 30 25	146 16 57 55	14 98 5 90	22 22 8 80	19 93 7 90	14 68 5 80	54 06 21 30	7 62 3 00	1 78 108 46	18 48 40 65	17 29 38 03	068	R H C
		M	33 06 72 73	142 03 55 20	74 32 29 25	140 83 55 45	14 66 5 75	21 28 8 40	19 60 7 50	13 82 5 45	53 06 20 00	6 25 2 45	1 54 94 06	16 04 35 28	14 63 32 22	9 87	V C
		25	29 20 64 25	136 70 53 80	71 74 28 25	135 50 53 35	14 34 5 60	20 34 8 00	18 07 7 10	12 96 5 10	52 06 20 50	4 88 1 90	1 30 79 66	13 60 29 91	12 01 26 41	145 64	O S H C
11	529	75	31 68 69 86	139 64 55 0	73 32 28 8	138 85 54 7	14 90 5 90	21 45 8 45	19 18 7 55	13 94 5 50	53 59 21 10	7 84 3 10	1 58 96 78	16 56 36 52	17 13 37 78	066	R H C
		M	29 00 65 94	135 16 53 2	71 25 28	133 80 52 7	14 58 5 75	20 31 8 00	18 16 7 15	13 17 5 20	52 55 20 70	6 63 2 60	1 35 82 62	14 11 31 10	14 42 31 80	8 84	V C
		25	26 32 58 62	130 68 51 4	69 18 27 2	128 75 50 7	14 26 5 60	19 17 7 55	17 14 6 75	12 40 4 90	51 51 20 50	5 42 2 10	1 12 68 46	11 66 25 68	11 71 25 52	133 54	O S H C
10	517	75	29 95 66 04	135 43 53 3	71 67 28 2	134 00 52 8	14 78 5 80	20 64 8 10	18 87 7 40	13 75 5 40	53 14 20 90	7 20 2 85	1 48 90 59	15 20 33 50	13 83 30 49	059	R H C
		M	27 16 59 80	131 29 51 7	69 56 27 4	129 01 50 8	14 46 5 70	19 86 7 80	17 90 7 05	13 09 5 15	52 05 20 50	6 05 2 40	1 27 77 05	12 98 28 61	11 63 25 65	7 72	V C
		25	24 37 53 74	127 15 50 1	67 45 26 6	124 02 48 8	14 14 5 60	19 08 7 50	16 93 6 70	12 43 4 90	50 96 20 10	4 90 1 95	1 06 64 71	10 76 23 72	9 43 20 77	130 94	O S H C
9	534	75	27 08 59 72	129 90 51 1	68 90 27 1	127 71 50 3	14 70 5 85	20 14 8 00	18 48 7 25	13 80 5 40	52 85 20 80	6 73 2 65	1 32 80 52	12 13 26 77	11 27 24 87	051	R H C
		M	24 90 54 50	126 17 48 3	67 68 26 4	123 25 48 8	14 39 5 70	19 30 7 60	17 65 6 85	13 11 5 15	51 94 20 45	5 62 2 20	1 14 69 75	16 65 22 17	9 68 21 35	6 56	V C
		25	22 72 50 08	122 44 48 3	65 26 25 7	118 79 49 7	14 08 5 55	18 16 7 20	16 82 6 65	12 42 4 90	51 03 20 10	4 51 1 75	97 58 98	7 97 17 57	8 09 17 83	128 77	O S H C
8	531	75	23 93 52 70	123 70 48 7	68 12 26 8	121 66 47 9	14 60 5 70	19 42 7 75	18 05 7 10	13 19 5 20	52 17 20 55	6 21 2 45	1 16 70 68	10 90 24 04	10 11 22 30	041	R H C
		M	22 17 48 55	120 16 45 3	66 06 26 4	117 44 46 2	14 29 5 60	18 00 7 45	17 78 6 75	12 60 4 95	51 27 20 20	5 05 2 00	99 60 18	9 26 20 42	8 81 19 45	5 12	V C
		25	20 41 45 00	116 62 45 9	64 00 25 2	113 22 44 5	13 98 5 50	18 18 7 15	16 31 6 40	12 01 4 70	50 37 19 85	3 89 1 55	82 49 68	7 62 16 80	7 51 16 56	124 94	O S H C
7	514	75	22 47 49 55	118 29 46 5	65 62 25 9	115 66 45 6	14 54 5 70	19 12 7 50	17 55 6 60	13 07 5 45	51 79 20 40	5 68 2 25	99 60 81	9 49 20 93	8 48 18 09	035	R H C
		M	20 70 45 64	114 95 45 7	63 71 25 1	112 01 44 1	14 22 5 60	18 42 7 25	16 68 6 55	12 53 4 95	50 93 20 05	4 70 1 85	83 50 77	7 48 16 50	6 60 14 55	4 27	V C
		25	18 93 41 73	111 61 43 9	61 80 24 3	108 36 42 6	13 90 5 50	17 72 7 00	15 81 6 20	12 03 4 75	50 07 19 70	3 72 1 45	67 40 73	5 47 12 07	4 72 10 41	122 07	O S H C
6	352	75	19 96 41 02	113 36 41 5	61 25 21 5	110 72 45 6	14 43 5 65	18 45 7 50	17 28 6 80	12 93 5 10	51 38 20 20	4 84 1 90	85 51 51	6 50 14 11	5 00 12 34	025	R H C
		M	18 50 40 80	109 00 43 2	61 85 21 1	107 16 42 2	14 66 5 50	17 25 7 00	16 31 6 40	12 38 4 90	50 37 19 50	3 87 1 50	71 45 50	5 17 11 40	4 83 10 64	2 04	V C
		25	17 04 37 53	106 44 41 9	59 35 23 1	103 60 40 5	13 60 5 35	17 05 6 70	15 34 6 00	11 83 4 70	49 36 19 40	2 90 1 10	57 31 70	3 94 8 69	4 06 8 94	117 69	O S H C
5	183	75	18 78 41 42	108 94 42 9	61 17 24 4	106 16 41 7	14 41 5 70	18 44 7 50	17 10 6 70	12 48 5 05	51 15 20 10	4 43 1 25	67 40 90	5 13 11 50	5 07 11 18	020	R H C
		M	17 32 35 19	105 38 41 5	59 31 21 3	102 25 40 3	13 99 5 50	17 71 7 00	16 17 6 35	12 35 4 55	50 23 19 75	3 59 1 40	58 35 50	4 72 10 41	4 56 10 66	2 33	V C
		25	15 56 34 66	101 80 40 1	57 15 22 4	98 51 30 9	13 57 5 50	16 98 6 70	15 24 6 00	11 86 4 65	49 31 19 40	2 75 1 05	49 30 10	4 21 9 52	4 05 8 94	117 75	O S H C

All measurements are given in both the Common and the Metric System. The figures in *italics* represent inches and pounds. To transpose centimeters to inches, multiply by .393; kilograms to pounds, multiply by 2.2; litres to cubic inches, multiply by 61.

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Measurements of
taken by

ANTHROPOM

Age	11
Sex	B
Deviation	D -2D
*No. Def.	
Height	1
†L. C.	3 4
Ch. Exp.	8 3
Bd. Ch.	1
Dp. Ch.	
Def. for Age	19
Normal	37

for GIRLS FIVE TO SIXTY
PHYSICAL TYPE FOR EACH AGE
(Compiled from the measurements of five to

Height	Chest	Height	Height of	Height	Height	Height	Height	Height	Height
(Cent.)	(Cent.)	(Cent.)	(Cent.)	(Cent.)	(Cent.)	(Cent.)	(Cent.)	(Cent.)	(Cent.)
18	10 08	24 88							
17	12 08	24 88							

*Number Deficient,
†Abbreviations for
Chest (Bd. Ch.), Dept
ulars (Def. for Age).

The foregoing
measurements wh
indicates below t
-2D indicates a c
per cent below th
number who are
measurement. E
chest expansion.

It is interestin
children to "Bow
in boys and girls
height and weigh

Age	Height
8	{ 124.07 122.18
9	{ 128.00 128.62
10	{ 131.80 132.15
11	{ 136.06 137.70
12	{ 142.10 144.33
13	{ 146.77 151.30
14	{ 153.14 155.40
15	{ 158.70 156.70

Until the age
at nine and ten

18	10 08	24 88							
17	12 08	24 88							
16	14 08	24 88							
15	16 08	24 88							
14	18 08	24 88							
13	20 08	24 88							
12	22 08	24 88							
11	24 08	24 88							
10	26 08	24 88							
9	28 08	24 88							
8	30 08	24 88							
7	32 08	24 88							
6	34 08	24 88							
5	36 08	24 88							
4	38 08	24 88							
3	40 08	24 88							
2	42 08	24 88							
1	44 08	24 88							

For a group of 100 girls, the measurements of 10 girls are shown in the table. The measurements of 10 girls are shown in the table. The measurements of 10 girls are shown in the table.

in weight; at eleven materially lower in height and weight; at fourteen boys are slightly heavier than girls; at fifteen taller than girls. In other words, the pubertal acceleration of growth occurs about three years earlier in girls than in boys.

Further study of Battle Creek children will doubtless reveal even more valuable information. It is planned by Dr. J. H. Kellogg to give prizes this coming year for the greatest improvement attained during the past year. This is Race Betterment in a practical form and worthy of imitation in other cities.

AWARD OF PRIZES

HON. JOHN W. BAILEY, LL.B., Mayor of Battle Creek, Michigan.

I have the extreme honor, for the second time today, to come before you for the purpose of presenting, or rather being the mere instrument of the presentation, to these young ladies and gentlemen, the medals which have been awarded to them by this Conference because of the fact that they are more perfect physically and have stood a higher test mentally than any of their fellow-students and fellow-boys and girls. It is indeed a great pleasure to me to do this and I congratulate these young boys and girls upon the fact not only that they are well born, but upon the further fact that they have had the energy to do their work well and according to directions in school. It is an inspiration to them which will follow them, I am certain, during all of their lives. They have been able out of the many hundreds who have been tested to stand both the best physical and the best mental tests, and if I speak not incorrectly, that is also an indication of the fact that their moral test is quite as high.

Before giving the medals to these young boys and girls, I wish for just one moment to diverge from the task which has been allotted to me, because I think it is entirely fitting at this time, on behalf of the citizens of Battle Creek who for the last week have been treated to this great Conference and to the best thought and the best opinion and knowledge of these great men and women who have been giving these special studies their particular attention, to express gratitude. It has been a treat to our people and we shall receive more and more benefit from it in the future. We are also under many obligations to our great Sanitarium, of which we are all proud, and to its great leader, Doctor Kellogg, to whom more than any other and perhaps all others is due the fact that the eyes of the world have been upon Battle Creek during the past week watching the proceedings of this Conference, hearing

what these men and women have given you personally. We have, I hope, been benefiting thereby. As one of the citizens of Battle Creek, and I am sure that I speak for all of you, I hope that Doctor Kellogg's desire that this may be the beginning of a series of Conferences in which all matters which tend to Race Betterment shall be considered will be fulfilled, and that these Conferences may be held yearly or oftener and that Battle Creek may continue always to be the place where they shall be held. It has been a great treat to our citizens and we are deeply indebted to all of these ladies and gentlemen who have come here, leaving their homes and their occupations in order to give of their experience and their life's work that we may be better. I am sure that all of us who have had the opportunity and have spent the time to listen to these valuable papers are benefited and will be in the future.

I understand that through the generosity of this Conference and of Doctor Kellogg these young ladies and gentlemen [prize winners] are to be given some medals, something which they may keep through their lives as an indication that, in this, possibly their first, contest, they have come out with colors flying. I sincerely hope that in all your future contests you will do as well, that you will always, as I am sure you will, give a splendid account of yourself and, in doing that, give a splendid account of your fathers, mothers and grandfathers and those who have gone before you. Their names will be printed and announced so you will know who they are.

II. BETTER BABIES CONTEST

DR. WALTER F. MARTIN, Battle Creek Sanitarium, Battle Creek, Michigan.

It is with pleasure that we bring before you the report of the committee of judges. The duties of this committee have been both pleasant and trying. If you can imagine five hundred babies, every one the "best baby in the land;" some cooing, some laughing, some wiggling, others crying and resenting every attempt of the physician to make the necessary examination, then you can have some idea of our task.

Some of these babies were very diplomatic and would look up at the judges with a twinkle in their eyes and a smile on their face, attempting, as it were, to influence or impress the judges favorably. Others appeared to express their feelings of having their personal liberties interfered with, and were not inclined to use any winsome



Virginia June Nay, prize-winning girl (six months to three years of age) in Better Babies Contest.



Alvin Kingsley, prize-winning boy (six months to three years of age) in Better Babies Contest.

ways to attract favors—no doubt they felt their physical scoring was able to stand on their own merits.

The members of this committee have worked faithfully. Every baby has been examined from head to foot. A score card indicating the different measurements and examinations to be made has been followed in each case. By referring to your score card you will note that a certain per cent is deducted for each deviation from the normal, and that the child's final score is the result of the sum of these taken from one hundred per cent. All babies scoring ninety-five per cent or above at the first examination were called back for a re-examination and a more careful search was made. By this means the most perfect babies were found, the final selection being made from the score card by choosing the baby with the highest per cent of development. You will note that the most perfect baby and not the most beautiful baby is selected. The possession or lack of beauty does not score either for or against the child. Your baby may be more beautiful and have a better disposition than the prize winner, but it may be behind in its teething, delayed in closure of fontanels or have some other deviation from normal development which would score it down.

The committee cannot feel sure that the babies presented here tonight are the very best in the city, but we have the self-consciousness of having done our work as faithfully as we could and that those which have been selected were chosen on their merits alone without any feeling of partiality toward any. We fear that some may feel disappointed that their babies did not get the prize, and wish to offer for your consolation this thought, that "he who wins the first round does not always come out ahead on the home run." Did you ever notice that the semi-invalid usually lives to an old age, and that often the strong and rugged is stricken off early in life? The reason for that is this: The semi-invalid recognizes his weakness and is continually on the lookout to spare himself, to avoid exposure, and dangerous environments, and thus saves himself serious illnesses, whereas the strong man, proud of his strength, spends it in a reckless way. All is at peace with him and he does not feel the need of conserving his forces for a physical conflict in which he may soon be involved.

In my opinion those who feel that they have lost in this contest can be the winners in the final contest of life. By studying the score card which will be sent you you can learn wherein your child is deficient, and thus by applying suitable measures for relief increase the child's development and welfare. This will be a decided benefit to the child; whereas those who won in this contest will be quite apt

to rest on their laurels, and such a policy always leads downward. We hope this will not be so in either case. We hope that this contest has stirred in the hearts of every participating parent a desire to strive to make his child better by learning the simple rules and suggestions for the child's betterment which will be mailed you with your baby's score card, and seeing to it that they are applied to your child's welfare. Strive to improve your child's physical condition so that it may be the winner next year.

It has been a pleasing experience to the members of this committee to note this desire manifest in the mothers in this city. Many of them said, "I did not bring my baby because I expected him to win a prize, but to learn if there is anything wrong and what I can do to aid his development." This is the true spirit of Motherhood and if every mother can see this phase, then there need be no disappointment.

Another pleasing experience of this committee has been to notice the high class of babies presented in this contest. We cannot imagine where a better lot of babies could be found. Battle Creek will certainly be bettered in the next generation by the painstaking work of the mothers here today in their efforts to raise these fine babies.

In behalf of the following members of this committee, who gave liberally of their time and worked faithfully at this task, Doctor Allen, Doctor Kimball, Doctor Holes, Doctor Powers, Doctor Eaton, Doctor Putman, Doctor Hoyt, Doctor Moshier, Doctor Stoner, Doctor Hubly, Doctor Dryden, Doctor Vandervoort-Stegman, Doctor Roth and Doctor Colver, I take great pleasure in presenting to you the six first prize winners:

Virginia June Nay
Alvin Kingsley
Florence Judd

Phillip O'Toole
Charlotte Sherwin
George Wentworth

In addition to these six prize winners there are certain ones who received special mention. *The Woman's Home Companion* issues certificates for names in this Special Mention class.

Six months old are—

Lora Mae Smith.
George Andrew Robertson.
Wendell Frederickson.

Two years old are—

Beulah Edgell.
Katherine Schram.
Robert Staid.

One year old are—

Freda Freeman.
Robert Mortensen.
Donald Hayes.
Virginia Belle Todd.
Deward Clark.

Three years old are—

Margaret Jacobsen.
John Bailey Breese.
Patience Sutton.
Frederick William Wildenberg.
William Edward Marsh.

Four years old are—

Marion McConnell.



Phillip O'Toole and Florence Judd, prize-winning boy and girl between three and four years of age.

PRIZE WINNERS

Six Months to Three Years Old

Girl

6 mo. Virginia June Nay,
108 Ann Ave.,
Battle Creek, Mich.
Mr. and Mrs. S. R. Nay.

Boy

35 mo. Alvin Kingsley,
261 Champion St.,
Battle Creek, Mich.
Mr. and Mrs. Albert Kingsley.

Three Years to Five Years Old

Girl

43 mo. Florence Judd,
179 Oak Lawn Ave.,
Battle Creek, Mich.
Mr. and Mrs. Geo. Edward Judd.

Boy

44 mo. Phillip O'Toole,
84 West St.,
Battle Creek, Mich.
Mr. and Mrs. Robert O'Toole.

Four Years Old

Girl

48 mo. Charlotte Sherwin,
Battle Creek, Mich.
Mr. and Mrs. Frank Sherwin.

Boy

45 mo. George Wentworth,
Oaklawn Ave.,
Battle Creek, Mich.
Mr. and Mrs. M. W. Wentworth.

CERTIFICATE WINNERS

Six Months Old

Girl

11 mo. Lora Mae Smith,
N. Washington Ave.,
Battle Creek, Mich.
Mr. and Mrs. Jessa Smith.

Boy

38 mo. John Bailey Breece,
251 Grove St.,
Battle Creek, Mich.
Mr. and Mrs. Wm. Breece.

Boy

6 mo. George Andrew Robertson,
247 E. Van Buren St.,
Battle Creek, Mich.
Mr. and Mrs. William Robertson.

Boy

6 mo. Wendell Frederickson,
Battle Creek, Mich.
Mr. and Mrs. Tom Frederickson.

Girl

22 mo. Katherine Schram,
188 Manchester St.,
Battle Creek, Mich.
Mr. and Mrs. Ed. Schram.

Three Years Old

Girl

40 mo. Patience Sutton,
33 Broad St.,
Battle Creek, Mich.
Mr. and Mrs. V. D. Sutton.

Four Years Old

Girl

57 mo. Marion McConnell,
20 Howland St.,
Battle Creek, Mich.
Mr. and Mrs. John McConnell.

Boy

17 mo. Robert Mortenson,
Manchester St.,
Battle Creek, Mich.

Boy

45 mo. William Edward Marsh,
71 N. Wood St.,
Battle Creek, Mich.
Mr. and Mrs. William E. Marsh.

Boy

35 mo. Frederick William Wildenberg,
Battle Creek, Mich.

One Year Old

Girl

12 mo. Freda Freeman,
100 Bennett St.,
Battle Creek, Mich.
Mr. and Mrs. Fred Freeman.

Boy

12 mo. Donald Hayes,
84 Rumely Ave.,
Battle Creek, Mich.
Mr. and Mrs. Willis Hayes.

Eighteen Months Old

Girl

19 mo. Virginia Belle Todd,
26 Greenwood Ave.,
Battle Creek, Mich.
Mr. and Mrs. Henry Todd.

Boy

20 mo. Deward Clark,
124 Bennett St.,
Battle Creek, Mich.
Mr. and Mrs. D. L. Clark.

Two Years Old

Girl

30 mo. Beulah Edgell,
167 Nelson St.,
Battle Creek, Mich.
Mr. and Mrs. Donald Edgell.

Boy

32 mo. Robert Staid,
90 Nichols St.,
Battle Creek, Mich.
Mr. and Mrs. Alfred F. Staid.

Three Years Old

Girl

38 mo. Margarete Jacobsen,
210 Hubbard St.,
Battle Creek, Mich.
Mr. and Mrs. Fred. Jacobsen.

AWARD OF PRIZES

HON. JOHN W. BAILEY.

It is indeed a pleasure for me to have the honor and opportunity of handing to these infants the prizes which indicate that they, in the opinion of the judges, are the best baby boys and baby girls of the six hundred who went to the Sanitarium Annex to be examined. There is nothing which has occurred during this Conference which has attracted more attention and in which more interest has been taken, especially by fathers and mothers, brothers and sisters, than in this baby contest. Every mother and father here and in the city have felt in their own hearts that they really had the best little girl and the best little boy in the whole city. All of those who went up to the Sanitarium to be examined felt that they were going there with really the best boy or the best girl, even if it didn't stand the best physical examination. I have myself expressed some interest in that contest. I really felt sorry for five or six hundred mothers and fathers who were bringing their little boys to the Sanitarium to be examined, because I did not think any of them had a ghost of a show. I thought there was one boy going up there that was especially ahead of all the others, and there wouldn't be any use of going through the performance of an examination. I cannot yet understand how the judges arrived at the conclusion they did, unless they took into account disposition. My little boy has the best disposition of any boy in town—he takes after his mother. As Doctor Martin has well said, it is not these six beautiful boys and girls who are so much benefited, as perhaps these other five or six hundred, who have been measured and in a measure found wanting. Their parents will certainly take advantage of the information which their score cards will contain. They will spend some time in the future in attempting to correct those defective matters which are indicated on those cards. I feel certain that the great good which will come to the fathers and mothers and the citizens of Battle Creek from this Conference will be the fact that many of them learned that their

little boys and their little girls need some special attention along some special line in order that in the future they may grow up to be prize-winning boys and girls. There is nothing which any community can well be so proud of as its boys and its girls. There is nothing which any community should spend willingly so much time in looking after as the physical, moral and mental welfare of its boys and girls, for we cannot very well determine who our grandfathers should have been. We cannot very well, most of us, change our present conditions, either physically or mentally, although we may somewhat, in a measure, morally. But this much is true, that each father and mother in Battle Creek can do very much to improve the condition of their children, so that when a child grows to be a young man or a young woman, it will have, as near as may be, a perfect body, a well-trained mind, and morals of the highest. I think these mothers can very well be proud indeed, that out of six hundred of the best babies in Battle Creek, which means six hundred of the best babies on earth, their babies should have come out with the highest score, indicating that, physically, they are the best. It is indeed a proud moment for these mothers, for they appreciate it very much more than do the little boys and girls, that they can come here to this splendid audience and receive this signal token of success. It means not only that the little boy and girl is a good, strong, healthy boy and girl, but it means something to themselves, something to their fathers and mothers, their grandfathers and their grandmothers, in order that they may be able to bring here today these perfect specimens of mankind, boyhood and girlhood.

The *Woman's Home Companion* has very fittingly donated prizes for these little ones from six months to three years of age, and this Conference on Race Betterment has also furnished prizes for the same ages, and in addition for three years to five years of age. I take great pleasure now, as those little tokens of success, of what can be done, are handed to these little boys and girls. I hope, and sincerely believe, that it will not be your last prize, but that you will continue in the future to be leaders among boys and girls, and later, to be leaders among men and women.

PROCEEDINGS
OF THE
First National Conference on
Race Betterment

January 8, 9, 10, 11, 12, 1914

BATTLE CREEK, MICHIGAN

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